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Mazdoor Kisan Shakti Sangathan

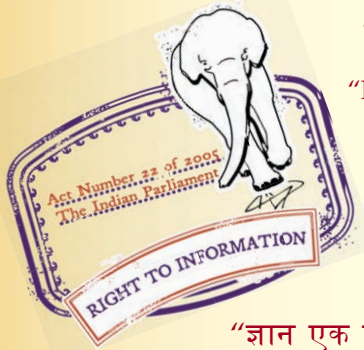
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“पुराने को छोड़ नये के तरफ”

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“Step Out From the Old to the New”

IS/IEC 60371-1 (2003): Specification for Insulating Materials Based on Mica, Part 1: Definitions and General Requirements [ETD 2: Solid Electrical Insulating Materials and Insulation Systems]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक
अभ्रक आधारित उष्मारोधी सामग्री की विशिष्टि
भाग 1 परिभाषाएँ और सामान्य अपेक्षाएँ

Indian Standard
**SPECIFICATION FOR INSULATING
MATERIALS BASED ON MICA**
PART 1 DEFINITIONS AND GENERAL REQUIREMENTS

ICS 29.035.50

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BUREAU OF INDIAN STANDARDS
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NATIONAL FOREWORD

This Indian Standard (Part 1) which is identical with IEC 60371-1 : 2003 'Specification for insulating materials based on mica — Part 1 : Definitions and general requirements' issued by the International Electrotechnical Commission (IEC) was adopted by the Bureau of Indian Standards on the recommendation of the Solid Electrical Insulating Materials and Insulating Systems Sectional Committee and approval of the Electrotechnical Division Council.

This standard was first published as IS 9299 (Part 1) : 1979 'Insulating materials based on built-up mica or treated mica paper: Part 1 Definitions and general requirements'. The committee has now decided to adopt the IEC Standard to harmonize it with the latest developments taken place at international level. This standard is now being published in single number based on IEC 60371 in various parts/sections. Other parts/section in this series are:

Part 2 Methods of test

Part 3 Specifications for individual materials,

Section 1 Commutator separators and materials

Section 2 Mica paper

Section 3 Specification for rigid mica materials for heating equipment

Section 4 Polyester film-backed mica paper with a B-stage epoxy resin binder

Section 5 Glass-backed mica paper with an epoxy resin binder for post-impregnation (VPI)

Section 6 Glass-backed mica paper with a B-stage epoxy resin binder

Section 7 Polyester film mica paper with an epoxy resin binder for single conductor taping

Section 8 Mica paper tapes for flame-resistant security cables

Section 9 Moulding micanite

This standard supersedes IS 9299 (Part 1) : 1979 and after the publication of this standard IS 9299 (Part 1) shall be treated as withdrawn.

The text of IEC Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain terminology and conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

(Continued on third cover)

Indian Standard

**SPECIFICATION FOR INSULATING
MATERIALS BASED ON MICA**

PART 1 DEFINITIONS AND GENERAL REQUIREMENTS

1 Scope

This part of IEC 60371 gives definitions of terms used to describe built-up mica materials, products based on them and mica paper. It also deals with general requirements and conditions of supply.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050(212):1990, *International Electrotechnical Vocabulary (IEV) – Chapter 212: Insulating solids, liquids and gases*

IEC 60371-3 (all parts), *Specification for insulating materials based on mica – Part 3: Specifications for individual materials*

3 Terms and definitions

For the purposes of this document, the definitions in IEC 60050(212) together with the following definitions apply.

3.1

mica

mineral belonging to the sheet silicates

NOTE The two main types used for electrical purposes are

- a) muscovite (potassium alumino-silicate),
- b) phlogopite (potassium magnesium alumino-silicate).

3.2

mica splittings

laminae split from mica blocks

3.3

mica paper

paper-like material consisting entirely of very small flakes of mica without any binder

3.4

built-up mica

one or more layers of mica splittings or mica paper bonded together with a suitable binder with or without reinforcement

4 Description of material

4.1 Rigid flat mica material or mica paper

Built-up mica, bonded under pressure, with or without external heat, in the form of rigid flat pieces.

4.1.1 Rigid material for commutator separators

Rigid mica material ground on one or both surfaces.

NOTE Commutator separators are the insulation between commutator segments.

4.1.2 Rigid material for heating equipment

Rigid mica material capable of operating at the specified temperature, not usually ground.

4.1.3 Rigid material, heat formable

Rigid mica material which can be formed and moulded when heated, not usually ground.

4.2 Flexible mica material

Built-up mica usually consists of mica paper with a suitable binder with or without reinforcement which is sufficiently flexible to permit winding or wrapping into place, with or without heat. The flexibility may or may not be maintained after application.

4.2.1 Flexible mica material impregnated with B stage resin

Flexible mica material with a binder suitable for final cure after application.

4.2.2 Flexible mica material, porous for post-impregnation

Flexible mica material containing a small amount of binder used in conjunction with vacuum pressure impregnation (VPI) with compatible impregnants.

4.2.3 Flexible mica material for fire security cables

Flexible mica material with a suitable binder designed for use in cables capable of operating after fire.

5 General requirements and conditions of supply

See the appropriate sheets of IEC 60371-3.

(Continued from second cover)

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards which are to be substituted in their respective places are listed below along with their degree of equivalence for the editions indicated:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
IEC 60050 (212) : 1990 International Electrotechnical Vocabulary (IEV) Chapter 212: Insulating solids, liquids and gases	IS 1885 (Part 62) : 1993 Electrotechnical vocabulary: Part 62 Insulating solids, liquids and gases (<i>first revision</i>)	Identical
IEC 60371-3 (All parts) Specification for insulating materials based on mica — Part 3: Specifications for individual materials	IS/IEC 60371-3 (All parts) Specification for insulating materials based on mica: Part 3 Specifications for individual materials	do

Only the English language text of the International Standard has been retained while adopting it in this Indian Standard, and as such the page numbers given here are not the same as in IEC Standard.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard alongwith amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards: Monthly Additions'.

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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