
Specification for insulating materials based on mica - Part 3: Specifications for individual materials - Sheet 1: Commutator separator and materials (IEC 60371-3-1:1984)

Specification for insulating materials based on mica -- Part 3: Specifications for individual materials -- Sheet 1: Commutator separators and materials

Bestimmung für Glimmererzeugnisse für elektrotechnische Zwecke -- Teil 3: Bestimmungen für einzelne Materialien -- Blatt 1: Kommutator-Isolierlamellen und -Materialien

Spécification pour les matériaux isolants à base de mica -- Partie 3: Spécifications pour matériaux particuliers -- Feuille 1: Matériaux pour entrelames de collecteurs

Ta slovenski standard je istoveten z: EN 60371-3-1:1995

ICS:

29.035.50 Materiali na podlagi sljude Mica based materials

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English version

**Specification for insulating materials based on mica
Part 3: Specifications for individual materials
Sheet 1: Commutator separators and materials
(IEC 371-3-1:1984)**

Spécification pour les matériaux isolants
à base de mica
Partie 3: Spécifications pour matériaux
particuliers
Feuille 1: Matériaux pour entrelames de
collecteurs
(CEI 371-3-1:1984)

Bestimmung für Glimmererzeugnisse für
elektrotechnische Zwecke
Teil 3: Bestimmungen für einzelne
Materialien
Blatt 1: Kommutator-Isolierlamellen
und -Materialien
(IEC 371-3-1:1984)

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of the International Standard IEC 371-3-1:1984, prepared by SC 15C, Specifications, of IEC TC 15, Insulating materials, was approved by CENELEC as HD 352.3.1 S2 on 1986-09-10.

This Harmonization Document was submitted to the formal vote for conversion into a European Standard and was approved by CENELEC as EN 60371-3-1 on 1995-05-15.

The following date was fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1996-07-01

Endorsement notice

The text of the International Standard IEC 371-3-1:1984 was approved by CENELEC as a European Standard without any modification.

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Spécification pour les matériaux isolants à base de mica

Troisième partie: Spécifications pour matériaux particuliers

Feuille 1: Matériaux pour entrelames de collecteurs

Specification for insulating materials based on mica

Part 3: Specifications for individual materials

Sheet 1: Commutator separators and materials

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SPECIFICATION FOR INSULATING MATERIALS BASED ON MICA

Part 3: Specifications for individual materials
Sheet 1: Commutator separators and materials

FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
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- 4) The IEC has not laid down any procedure concerning marking as an indication of approval and has no responsibility when an item of equipment is declared to comply with one of its recommendations.

PREFACE

This standard has been prepared by Sub-Committee 15C: Specifications, of IEC Technical Committee No. 15: Insulating Materials.

This second edition replaces the first edition of IEC Publication 371-3-1.

The text of this standard is based on the following documents:

Six Months' Rule	Report on Voting
15C(CO)134	15C(CO)148

Further information can be found in the Report on Voting indicated in the table above.

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The following IEC publication is quoted in this standard:

Publication No. 371-2 (second edition, 1984): Specification for Insulating Materials Based on Mica, Part 2: Methods of Test. (In preparation).

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SPECIFICATION FOR INSULATING MATERIALS BASED ON MICA

Part 3: Specifications for individuals materials

Sheet 1: Commutator separators and materials

INTRODUCTION

This standard is one of a series which deals with insulating materials for use in electrical equipment built up from mica splittings or mica paper, with or without reinforcement, and with mica paper in its pure state.

The series consists of the three following parts:

Part 1: Definitions and General Requirements.

Part 2: Methods of Test.

Part 3: Specifications for Individual Materials.

1. Scope

This sheet of the standard applies to several types of rigid materials based on mica splittings or mica paper for commutator separators.

These products shall be made from muscovite or phlogopite mica, built up from mica splittings or mica paper by the use of a suitable bonding medium. They are supplied in the following forms:

- sheets in the dimensions in which they are pressed or after trimming;
- strips cut from sheets;
- commutator separators having the shapes and dimensions and in the conditions ordered by the user.

The normal manufacturing thicknesses lie between 0.3 mm and 2 mm.

2. General requirements

The material as supplied shall be of uniform hardness, free from soft patches and foreign matter.

The bonding medium used shall be agreed between supplier and purchaser.

The materials, when tested in accordance with the methods given in the second edition (in preparation) of IEC Publication 371-2: Specification for Insulating Materials Based on Built-up Mica, Part 2: Methods of Test, shall comply with the requirements of this publication.

3. Thickness

3.1 Definition of nominal thickness

The nominal thickness is that stated when ordering, being the thickness on delivery (before assembly of the commutator).

3.2 Measurements and tolerances

The tolerances with respect to the nominal thickness, in millimetres, are given hereinafter:

3.2.1 Sheets, strips and separators having a surface area ≤ 10 cm²:

Specimen: as in Sub-clauses 3.2.1 and 3.2.4 of the second edition of IEC Publication 371-2. The thickness shall be measured with the apparatus given in Sub-clause 3.1.3 of that publication (diameter of measuring faces 6 mm to 8 mm, pressure: 7 MPa).

The thickness measurements shall be in accordance with Sub-clause 3.3 of the second edition of IEC Publication 371-2.

TABLE I

Thickness tolerances for sheets, strips and separators having a surface ≤ 10 cm²

	Mica splittings	Mica paper (normal tolerance)	Mica paper (close tolerance)
Tolerance of specimen	± 0.03 mm	± 0.03 mm	± 0.02 mm
Difference between maximum and minimum values of thickness on same specimen	0.06 mm	0.06 mm	0.04 mm

3.2.2 Separators having a surface area greater than 10 cm².

3.2.2.1 Separators supplied individually:

Specimen: as in Item *a)* of Sub-clause 3.2.5 of the second edition of IEC Publication 371-2.

The thickness measurement shall be in accordance with Sub-clause 3.3 of the second edition of IEC Publication 371-2.

TABLE II

Thickness tolerances for separators having a surface area greater than 10 cm²

	Mica splittings	Mica paper
Tolerance of specimen	± 0.02 mm	± 0.015 mm
Difference between maximum and minimum values of thickness on same specimen	0.04 mm	0.03 mm

3.2.2.2 Stack height of separators supplied in packeted stacks

The nominal height of the stack and the number of separators per stack should be stated when material is ordered. The stack height shall be measured in accordance with Sub-clause 3.1.4 of the second edition of IEC Publication 371-2. With a pressure of 30 MPa the variation in height from the nominal shall be agreed upon between purchaser and supplier.

4. Dimensions, other than thickness

4.1 Sheets

The tolerance on the nominal length and on the nominal width on sheets trimmed to size is $\pm 5\%$.

Note. — Where sheets are not trimmed to size, tolerance on mass shall be agreed upon.

4.2 Strips

The tolerance on length is $\pm 5\%$ and the tolerance on the nominal width is ± 0.5 mm.

4.3 Separators

The tolerances on overall dimensions are:

± 0.3 mm for separators with surface areas not exceeding 10 cm^2 .

± 0.5 mm for separators with a surface area over 10 cm^2 .

5. Detection of defects and conducting particles in sheets

Until a method of detection of defects has been agreed upon for Publication 371-2, the accepted type and number of defects is subject to manufacturer and user agreement.

6. Characteristics

Tables III and IV give the specified values for the characteristics of products based on mica material for commutator separators, in whatever form it is delivered.

7. Form

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Products based on mica or mica splittings for commutator separators are generally supplied:

- in sheets approximately 1 000 mm long and 500 mm to 1 000 mm wide;
- in strips approximately 1 000 mm long and not more than 200 mm wide;
- shaped commutator separators having a surface area up to 10 cm^2 are generally supplied in bulk (unless otherwise agreed between manufacturer and user);
- shaped commutator separators having surface area over 10 cm^2 are delivered either in bulk, in non-calibrated packets, or in packeted stacks. The number of separators per packet, generally between 20 and 50, is subject to special agreement. Also, according to the type of material, intermediate layers may be used.