# IEC 60626-1

Edition 4.0 2023-08

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

## Combined flexible materials for electrical insulation – Part 1: Definitions and general requirements

## Matériaux combinés souples destinés à l'isolement électrique – Partie 1: Définitions et exigences générales



IEC 60626-1:2023-08(en-fr)



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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# COMBINED FLEXIBLE MATERIALS FOR ELECTRICAL INSULATION –

## Part 1: Definitions and general requirements

## FOREWORD

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IEC 60626-1 has been prepared by IEC technical committee 15: Solid electrical insulating materials. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2009. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) the materials available for use within this series of standards have been updated;
b) a framework has been created to allow test methods beyond those used for quality control specifications to allow for testing for qualification purposes.

The text of this International Standard is based on the following documents:

| Draft | Report on voting |
|---|---|
| 15/1009/FDIS | 15/1016/RVD |

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 60626 series, published under the general title *Combined flexible materials for electrical insulation*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

# INTRODUCTION

This document is one of a series which deals with combined flexible materials consisting of two or more different insulating materials laminated together. The components of the combined materials are plastic films and/or fibrous materials such as papers, woven or non-woven fabrics, impregnated or not impregnated. This document does not include mica papers used as primary component, which are covered by the IEC 60371 series, but insulation materials based on mica can be used as component of a combined flexible material.

This series consist of three parts describing:

Part 1: Definitions and general requirements (IEC 60626-1);

Part 2: Methods of test (IEC 60626-2);

Part 3: Specifications for individual materials (IEC 60626-3).

# COMBINED FLEXIBLE MATERIALS FOR ELECTRICAL INSULATION –

# Part 1: Definitions and general requirements

## 1 Scope

This part of IEC 60626 contains the definitions related to and the general requirements to be fulfilled by combined flexible materials for electrical insulation. This document does not include mica papers used as a primary component, which are covered by the IEC 60371 series, but insulation materials based on mica paper can be used as component of a combined flexible material. Materials which conform to this specification meet established levels of performance. However, the selection of material by a user for a specific application is based on the actual requirements necessary for adequate performance in that application and not based on this specification alone.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60371-3-2, *Insulating materials based on mica – Part 3: Specifications for individual materials – Sheet 2: Mica paper*

IEC 60371-3-4*, Specification for insulating materials based on mica – Part 3: Specifications for individual materials – Sheet 4: Polyester film-backed mica paper with B-stage epoxy resin binder*

IEC 60371-3-5*, Insulating materials based on mica – Part 3: Specifications for individual materials – Sheet 5: Glass-backed mica paper with and epoxy resin binder for post-impregnation (VPI)*

IEC 60371-3-6*, Specification for insulating materials based on mica – Part 3: Specifications for individual materials – Sheet 6: Glass-backed mica paper with B-stage epoxy resin binder*

IEC 60554-3-1, *Specification for cellulosic papers for electrical purposes – Part 3-1: Specifications for individual materials – General purpose electrical paper*

IEC 60626-3, *Combined flexible materials for electrical insulation – Part 3: Specifications for individual materials*

IEC 60641-3-2:2007, *Pressboard and presspaper for electrical purposes – Part 3: Specifications for individual materials – Sheet 2: Requirements for presspaper types P.2.1, P4.1, P4.2, P4.3 and P6.1*

IEC 60674-3-2, *Specification for plastic films for electrical purposes – Part 3: Specifications for individual materials – Sheet 2: Requirements for balanced biaxially oriented Polyethylene Terephthalate (PET) films used for electrical insulation*

IEC 60674-3-4, *Plastic films for electrical purposes – Part 3: Specifications for individual materials – Sheets 4: Polyimide films used for electrical insulation*

IEC 60674-3-8, *Plastic films for electrical purposes – Part 3: Specifications for individual materials – Sheet 8: Balanced biaxially oriented polyethylene naphthalate (PEN) films used for electrical insulation*

IEC 60819-3-1, *Non-cellulosic papers for electrical purposes – Part 3: Specifications for individual materials – Sheet 1: Filled glass paper*

IEC 60819-3-2, *Non-cellulosic papers for electrical purposes – Part 3: Specifications for individual materials – Sheet 2: Hybrid inorganic- organic paper*

IEC 60819-3-3, *Non-cellulosic papers for electrical purposes – Part 3: Specifications for individual materials – Sheet 3: Unfilled aramid (aromatic polyamide) papers*

IEC 60819-3-4:2011, *Non-cellulosic papers for electrical purposes – Part 3: Specifications for individual materials – Sheet 4: Aramid fibre paper containing not more than 50 % of mica particles*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at https://www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp

**3.1**
**full width material**
material of production width, for example about 1 m, as ordered

**3.2**
**slit material**
tape
material cut from full width material

**3.3**
**duplex material**
laminate consisting of two layers of insulating materials

**3.4**
**triplex material**
laminate consisting of three layers of insulating materials

**3.5**
**quadruplex material**
laminate consisting of four layers of insulating materials