BS EN IEC 60626-1:2023

BSI Standards Publication

Combined flexible materials for electrical insulation

Part 1: Definitions and general requirements

bsi.

National foreword

This British Standard is the UK implementation of EN IEC 60626-1:2023. It is identical to IEC 60626-1:2023. It supersedes BS EN 60626-1:2012, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GEL/15, Solid electrical insulating materials.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Amendments/corrigenda issued since publication

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60626-1

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English Version

Combined flexible materials for electrical insulation - Part 1: Definitions and general requirements (IEC 60626-1:2023)

Matériaux combinés souples destinés à l'isolement électrique - Partie 1: Définitions et exigences générales (IEC 60626-1:2023)

Flexible Mehrschichtisolierstoffe zur elektrischen Isolierung - Teil 1: Definitionen und allgemeine Anforderungen (IEC 60626-1:2023)

This European Standard was approved by CENELEC on 2023-09-20. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 15/1009/FDIS, future edition 4 of IEC 60626-1, prepared by IEC/TC 15 "Solid electrical insulating materials" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60626-1:2023.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2024-06-20
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2026-09-20

This document supersedes EN 60626-1:2012 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 60626-1:2023 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 60371 (series)	NOTE Approved as EN 60371 (series)
IEC 60641-1:2007	NOTE Approved as EN 60641-1:2008 (not modified)
IEC 60626-2	NOTE Approved as EN 60626-2
IEC 60674-1:1980	NOTE Approved as EN 60674-1:1998 (not modified)
IEC 60819-1:2009	NOTE Approved as EN 60819-1:2012 (not modified)
ISO 1043-1	NOTE Approved as EN ISO 1043-1

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cencenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60371-3-2	-	Insulating materials based on mica - Part 3: Specifications for individual materials - Sheet 2: Mica paper	EN 60371-3-2	-
IEC 60371-3-4	-	Specification for insulating materials based on mica - Part 3: Specification for individual materials - Sheet 4: Polyester film-backed mica paper with a B-stage epoxy resin binder	EN 60371-3-4	-
IEC 60371-3-5	-	Insulating materials based on mica - Part 3: Specifications for individual materials - Sheet 5: Glass-backed mica paper with an epoxy resin binder for post-impregnation (VPI)	EN 60371-3-5	-
IEC 60371-3-6	-	Specification for insulating materials based on mica - Part 3: Specifications for individual materials - Sheet 6: Glass-backed mica paper with a B-stage epoxy resin binder	EN 60371-3-6	-
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	EN 60626-3	-
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, P.4.1, P.4.2, P.4.3 and P.6.1	EN 60641-3-2	2008

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	EN IEC 60674-3-2	-
IEC 60674-3-4	-	Plastic films for electrical purposes - Part 3: Specifications for individual materials - Sheets 4: Polyimide films used for electrical insulation	EN IEC 60674-3-4	-
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	EN 60674-3-8	-
IEC 60819-3-1	-	Non-cellulosic papers for electrical purposes - Part 3: Specifications for individual materials - Sheet 1: Filled glass paper	EN 60819-3-1	-
IEC 60819-3-2	-	Non-cellulosic papers for electrical purposes - Part 3: Specifications for individual materials - Sheet 2: Hybrid inorganic-organic paper	EN 60819-3-2	-
IEC 60819-3-3	-	Non-cellulosic papers for electrical purposes - Part 3: Specifications for individual materials - Sheet 3: Unfilled aramid (aromatic polyamide) papers	EN 60819-3-3	-
IEC 60819-3-4	2013	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	EN 60819-3-4	2014

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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COMBINED FLEXIBLE MATERIALS FOR ELECTRICAL INSULATION –

Part 1: Definitions and general requirements

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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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*