



NSAI
Standards

Irish Standard
I.S. EN IEC 60674-3-1:2021

Plastic films for electrical purposes - Part
3: Specifications for individual materials -
Sheet 1: Biaxially oriented polypropylene
(PP) film for capacitors

I.S. EN IEC 60674-3-1:2021

Incorporating amendments/corrigenda/National Annexes issued since publication:

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This document is based on:

EN IEC 60674-3-1:2021

Published:

2021-10-01

This document was published under the authority of the NSAI and comes into effect on:

2021-10-18

ICS number:

29.035.20

NOTE: If blank see CEN/CENELEC cover page

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National Foreword

I.S. EN IEC 60674-3-1:2021 is the adopted Irish version of the European Document EN IEC 60674-3-1:2021, Plastic films for electrical purposes - Part 3: Specifications for individual materials - Sheet 1: Biaxially oriented polypropylene (PP) film for capacitors

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EUROPEAN STANDARD

EN IEC 60674-3-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2021

ICS 29.035.20

Supersedes EN 60674-3-1:1998 and all of its
amendments and corrigenda (if any)

English Version

**Plastic films for electrical purposes - Part 3: Specifications for
individual materials - Sheet 1: Biaxially oriented polypropylene
(PP) film for capacitors
(IEC 60674-3-1:2021)**

Films plastiques à usages électriques - Partie 3:
Spécifications pour matériaux particuliers - Feuille 1: Films
de polypropylène biorienté (PP) pour condensateurs
(IEC 60674-3-1:2021)

Isolierfolien für elektrotechnische Zwecke - Teil 3:
Anforderungen für einzelne Werkstoffe - Blatt 1: Biaxial
orientierte Polypropylen-(PP)-Folien für Kondensatoren
(IEC 60674-3-1:2021)

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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.

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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

EN IEC 60674-3-1:2021 (E)

European foreword

The text of document 15/909/CDV, future edition 2 of IEC 60674-3-1, prepared by IEC/TC 15 “Solid electrical insulating materials” was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60674-3-1:2021.

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) 2022-06-29
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-09-29

This document supersedes EN 60674-3-1:1998 and all of its amendments and corrigenda (if any).

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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.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60674-1	1980	Specification for plastic films for electrical purposes. Part 1: Definitions and general requirements	EN 60674-1	1998
IEC 60674-2	2016	Specification for plastic films for electrical purposes - Part 2: Methods of test	EN 60674-2	2017

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IEC 60674-3-1

Edition 2.0 2021-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Plastic films for electrical purposes –
Part 3: Specifications for individual materials – Sheet 1: Biaxially oriented
polypropylene (PP) films for capacitors**

**Films plastiques à usages électriques –
Partie 3: Spécifications pour matériaux particuliers – Feuille 1: Films de
polypropylène biorienté (PP) pour condensateurs**





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IEC 60674-3-1

Edition 2.0 2021-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Plastic films for electrical purposes –
Part 3: Specifications for individual materials – Sheet 1: Biaxially oriented
polypropylene (PP) films for capacitors**

**Films plastiques à usages électriques –
Partie 3: Spécifications pour matériaux particuliers – Feuille 1: Films de
polypropylène biorienté (PP) pour condensateurs**

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ELECTROTECHNICAL
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INTERNATIONALE

ICS 29.035.20

ISBN 978-2-8322-1017-4

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CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions	6
4 Classification.....	6
5 Designation	7
6 General requirements	7
7 Dimensions	7
7.1 Thickness	7
7.2 Width.....	8
7.3 Length/diameter	8
8 Properties.....	8
8.1 Physical properties.....	8
8.2 Electric strength (DC test)	9
8.3 Electrical weak spots.....	9
8.4 Thermal endurance	10
8.5 Wetting tension (types 1b + 1c, 2b + 2c and 3b + 3c only).....	10
8.6 Liquid absorption.....	10
8.7 Compatibility with impregnants	10
8.8 Dissipation factor under impregnated conditions	10
8.9 Space factor	11
9 Roll characteristics	11
9.1 Windability	11
9.2 Joins.....	11
9.3 Roll width (overall width)	12
9.4 Core	12
9.5 Labelling	12
Bibliography	13
Table 1 – Physical properties	8
Table 2 – Electric strength (DC test) for types 1, 2 and 3	9
Table 3 – Electrical weak spots for types 1, 2 and 3.....	10
Table 4 – Maximum number of joins within a roll (types 1, 2 and 3).....	11

INTERNATIONAL ELECTROTECHNICAL COMMISSION

PLASTIC FILMS FOR ELECTRICAL PURPOSES –

Part 3: Specifications for individual materials – Sheet 1: Biaxially oriented polypropylene (PP) films for capacitors

FOREWORD

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IEC 60674-3-1 has been prepared by IEC technical committee 15: Solid electrical insulating materials.

This second edition cancels and replaces the first edition published in 1998 and Amendment 1:2011. This edition constitutes a technical revision.

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

- a) this document has been completely revised editorially and technically and included in the IEC 60674 series of standards;
- b) the test methods have been updated to reflect today's state of the art.

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

Draft	Report on voting
15/909/CDV	15/925/RVC

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/standardsdev/publications.

A list of all parts in the IEC 60674 series, published under the general title *Plastic films for electrical purposes*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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 standard is one of a series which deals with plastic films for electrical purposes. The series will consist of three parts:

Part 1: Definitions and general requirements (IEC 60674-1);

Part 2: Methods of test (IEC 60674-2);

Part 3: Specifications for individual materials (IEC 60674-3).

This standard contains one of the sheets comprising Part 3, as follows:

Sheet 1: Biaxially oriented (PP) polypropylene films for capacitors.

PLASTIC FILMS FOR ELECTRICAL PURPOSES –

Part 3: Specifications for individual materials – Sheet 1: Biaxially oriented polypropylene (PP) films for capacitors

1 Scope

This sheet of IEC 60674-3 gives the requirements for biaxially oriented polypropylene film having a smooth or rough surface, corona treated when required for vacuum metallization. The films are for use as dielectric in capacitors.

Materials which conform to this specification meet established levels of performance. However, the selection of a 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.

Safety warning: It is the responsibility of the user of the methods contained or referred to in this document to ensure that they are used in a safe manner.

2 Normative references

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IEC 60674-1:1980, *Specification for plastic films for electrical purposes – Part 1: Definitions and general requirements*

IEC 60674-2:2016, *Specification for plastic films for electrical purposes – Part 2: Methods of test*

3 Terms and definitions

No terms and definitions are listed in this document.

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

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

4 Classification

The polypropylene film shall be of the following types:

- Type 1: having smooth surfaces (space factor <5 %, see 8.9);
- Type 1a: not corona treated;
- Type 1b: one side pre-treated to facilitate the vacuum deposition of metal;
- Type 1c: both sides pre-treated;

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