

Specification for plastic films for electrical purposes - Part 3: Specifications for individual materials - Sheets 4 to 6: Requirements for polyimide films used for electrical insulation

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 60674-3-4:2002 sisaldab Euroopa standardi EN 60674-3-4 to 6:1995 ingliskeelset teksti.

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English version

Specification for plastic films for electrical purposes
Part 3: Specifications for individual materials
Sheets 4 to 6: Requirements for polyimide films used for
electrical insulation

(IEC 674-3-4 to 6 : 1993)

Spécification pour les films en matière
plastique à usages électriques
Partie 3: Spécifications pour matériaux
particuliers
Feuilles 4 à 6: Prescriptions pour les films de
polyimide utilisés dans l'isolation électrique
(CEI 674-3-4 à 6 : 1993)

Bestimmung für Kunststoff-Isolierfolien für
elektrotechnische Zwecke
Teil 3: Bestimmungen für einzelne Werkstoffe
Blätter 4 bis 6: Anforderungen für
Polyimide-Folien, die zur elektrischen
Isolierung verwandt werden
(IEC 674-3-4 bis 6 : 1993)

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

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CENELEC

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

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Foreword

The text of the International Standard IEC 674-3-4 to 6 : 1993, prepared by SC 15C, Specifications, of IEC TC 15, Insulating materials, was submitted to the formal vote and was approved by CENELEC as EN 60674-3-4 to 6 on 1994-12-06 without any modification.

The following dates were 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) 1995-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1995-12-01

Annexes designated 'normative' are part of the body of the standard. In this standard, annex ZA is normative. Annex ZA has been added by CENELEC.

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INTRODUCTION

This International Standard is one of a series which deals with plastic films for electrical purposes. The series consists of three parts:

- Part 1: Definitions and general requirements (IEC 674-1).
- Part 2: Methods of test (IEC 674-2).
- Part 3: Specifications for individual materials (IEC 674-3).

This standard contains three of the sheets comprising part 3 as follows:

Sheet 4: Requirements for polyimide films based on poly(N,N'-p,p'-oxydiphenylene pyromellitimide) used for electrical insulation.

Sheet 5: Requirements for polyimide films based on poly(N,N'-p-phenylene biphenyl-tetracarboxylimide) used for electrical insulation.

Sheet 6: Requirements for polyimide films based on poly(N,N'-p,p'-oxydiphenylene biphenyl-tetracarboxylimide) used for electrical insulation.

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SPECIFICATION FOR PLASTIC FILMS FOR ELECTRICAL PURPOSES

Part 3: Specifications for individual materials Sheets 4 to 6: Requirements for polyimide films used for electrical insulation

1 General

1.1 Scope

This International Standard gives the requirements for the following polyimide, films with or without heat sealable fluoroethylene-propylene (FEP) coatings.

Sheet 4: Requirements for polyimide films based on poly(N,N'-p,p'-oxydiphenylene pyromellitimide).

Sheet 5: Requirements for polyimide films based on poly(N,N'-p-phenylene biphenyl tetra carboxylimide).

Sheet 6: Requirements for polyimide films based on poly(N,N'-p,p'-oxydiphenylene biphenyl-tetracarboxylimide).

1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 674-1: 1980, *Specification for plastic films for electrical purposes - Part 1: Definitions and general requirements.*

IEC 674-2: 1988, *Specification for plastic films for electrical purposes - Part 2: Methods of test.*

IEC 757: 1983, *Code for designation of colours.*

1.3 Classification

The polyimide film shall be of the following types:

Type 1: General purpose

Type 2A: One side coated*

Type 2B: Two sides coated*

* Type 2 is surface coated to render the surface(s) heat sealable.

Type 3: Dimensionally stabilized (only generally available in sheets 4 and 5 types)

Type 4: Heat shrinkable (only generally available in sheet 4 types)

2 Designation

The film shall be identified by the designation which follows:

Designation of the film – IEC 674-3-4 (or 5, or 6) – PI – type – thickness in micrometres – width in millimetres – length in metres – colour.

Example:

Polyimide film IEC 674-3-4 – PI – type 1 – 100 – 20 – 200 – nc – f

(f = flame retardant; r = regular; nc = natural colour; other colours according to IEC 757).

3 General requirements

Type 1 material shall be a flexible, self-supporting film made from polyimide polymer.

Type 2 shall have a heat sealable coating of fluoroethylene propylene (FEP) resin on one or both sides of type 1 material.

Type 3 shall be identical to type 1 except for improved dimensional stability.

Type 4 shall be identical to type 1 except for the heat shrinkability requirement.

All types shall conform to the general requirements laid down in IEC 674-1.

4 Dimensions

4.1 Thickness

The film thickness of types 1, 3 and 4 shall be measured by a gravimetric method in accordance with 3.3 of IEC 674-2. The thickness of type 2 shall be measured using a micrometer in accordance with 3.1 of IEC 674-2.

The overall thickness shall be in accordance with the nominal thickness and permitted range of thickness given in table 1 and 2.