IEC 60674-3-8

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FINAL VERSION

VERSION FINALE

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

Films plastiques à usages électriques – Partie 3: Spécifications pour matériaux particuliers – Feuille 8: Films de polynaphtalate d'éthylène (PEN), à orientation bi-axiale équilibrée, utilisés dans l'isolation électrique

IEC 60674-3-8:2016-11 AMD1:2016-11 CSV(en-fr)

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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PLASTIC FILMS FOR ELECTRICAL PURPOSES –

Part 3: Specifications for individual materials – Sheet 8: Balanced biaxially oriented polyethylene naphthalate (PEN) films used for electrical insulation

FOREWORD

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This Consolidated version of IEC 60674-3-8 bears the edition number 1.1. It consists of the first edition (2011-07) [documents 15/631/FDIS and 15/643/RVD] and its amendment 1 (2016-11) [documents 15/738/CDV and 15/761/RVC]. The technical content is identical to the base edition and its amendment.

This Final version does not show where the technical content is modified by amendment 1. A separate Redline version with all changes highlighted is available in this publication.

International Standard IEC 60674-3-8 has been prepared by IEC technical committee 15: Solid electrical insulating materials.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

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

The committee has decided that the contents of the base publication and its amendment will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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- withdrawn,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

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 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 8: Balanced biaxially oriented polyethylene naphthalate (PEN) films used for electrical insulation.

PLASTIC FILMS FOR ELECTRICAL PURPOSES –

Part 3: Specifications for individual materials – Sheet 8: Balanced biaxially oriented polyethylene naphthalate (PEN) films used for electrical insulation

1 Scope

This International Standard gives the requirements for balanced biaxially oriented polyethylene naphthalate (PEN) films for use as electrical insulation.

Materials which conform to this specification meet established levels of performance. However, the selection of a material by a user for a specific application should be 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

The following referenced documents are indispensable for the application 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 60674-1:1980, *Specification for plastic films for electrical purposes – Part 1: Definitions and general requirements*

IEC 60674-2:1988, *Specification for plastic films for electrical purposes – Part 2: Methods of test*

IEC60068-2-66:1994, *Environmental testing – Part 2: Test methods – Test Cx: Damp heat, steady state (unsaturated pressurized vapour)*

IEC 60216-5:2008, *Electrical insulating materials – Thermal endurance properties – Part 5: Determination of relative thermal endurance index (RTE) of an insulating material*

ISO11357-3:1999, *Plastics – Differential scanning calorimetry (DSC) – Part 3:Determination of temperature and enthalpy of melting and crystallization*

3 Classification

The PEN film shall be of the following types:

Type 1a: General purpose, high hydrolytic stability grade.

Type 1b: General purpose, standard grade.

Type 2: Capacitor grade.

4 Designation

The plastic film shall be identified by the following designation: