



**NSAI**  
Standards

Irish Standard  
I.S. EN 60684-3-247:2011&A1:2017

Flexible insulating sleeving - Part 3:  
Specifications for individual types of sleeving  
- Sheet 247: Heat-shrinkable polyolefin  
sleeving, dual wall, not flame retarded, thick  
and medium wall

**I.S. EN 60684-3-247:2011&A1:2017**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

EN 60684-3-247:2011/A1:2017

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*This document is based on:*

EN 60684-3-247:2011

*Published:*

2011-09-02

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

2017-04-04

ICS number:

NOTE: If blank see CEN/CENELEC cover page

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## National Foreword

I.S. EN 60684-3-247:2011&A1:2017 is the adopted Irish version of the European Document EN 60684-3-247:2011, Flexible insulating sleeving - Part 3: Specifications for individual types of sleeving - Sheet 247: Heat-shrinkable polyolefin sleeving, dual wall, not flame retarded, thick and medium wall

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EUROPEAN STANDARD

**EN 60684-3-247:2011/A1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2017

ICS 29.035.20

English Version

**Flexible insulating sleeving - Part 3: Specifications for individual types of sleeving - Sheet 247: Heat-shrinkable polyolefin sleeving, dual wall, not flame retarded, thick and medium wall (IEC 60684-3-247:2011/A1:2016)**

Gaines isolantes souples - Partie 3: Spécifications pour types particuliers de gaines - Feuille 247: Gaines thermorétractables en polyoléfine, à double paroi (épaisse et moyenne), non retardées à la flamme (IEC 60684-3-247:2011/A1:2016)

Isolierschläuche - Teil 3: Anforderungen für einzelne Schlauchtypen - Blatt 247: Wärmeschrumpfende Polyolefinschläuche mit Innenbeschichtung, nicht flammhemmend, dickwandig und mittlere Wanddicke (IEC 60684-3-247:2011/A1:2016)

This amendment A1 modifies the European Standard EN 60684-3-247:2011; it was approved by CENELEC on 2017-01-18. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## **EN 60684-3-247:2011/A1:2017**

### **European foreword**

The text of document 15/754/CDV, future IEC 60684-3-247:2011/A1, prepared by IEC/TC 15 "Solid electrical insulating materials" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60684-3-247:2011/A1:2017.

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) 2017-10-18
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-01-18

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 60684-3-247**

September 2011

ICS 29.035.20

English version

**Flexible insulating sleeving -  
Part 3: Specifications for individual types of sleeving -  
Sheet 247: Heat-shrinkable polyolefin sleeving, dual wall, not flame  
retarded, thick and medium wall  
(IEC 60684-3-247:2011)**

Gaines isolantes souples -  
Partie 3: Spécifications pour types  
particuliers de gaines -  
Feuille 247: Gaines thermorétractables en  
polyoléfine, à double paroi (épaisse et  
moyenne), non retardées à la flamme  
(CEI 60684-3-247:2011)

Isolierschläuche -  
Teil 3: Anforderungen für einzelne  
Schlauchtypen -  
Blatt 247: Wärmeschrumpfende  
Polyolefinschläuche mit  
Innenbeschichtung, nicht flammwidrig,  
dickwandig und mittlere Wanddicke  
(IEC 60684-3-247:2011)

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Comité Européen de Normalisation Electrotechnique  
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**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 15/625/FDIS, future edition 1 of IEC 60684-3-247, prepared by IEC TC 15, Solid electrical insulating materials, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60684-3-247 on 2011-07-28.

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with the EN have to be withdrawn (dow) 2014-07-28

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 60684-3-247:2011 was approved by CENELEC as a European Standard without any modification.

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## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60296	2003	Fluids for electrotechnical applications - Unused mineral insulating oils for transformers and switchgear	EN 60296 + corr. September	2004 2004
IEC 60502-1	2004	Power cables with extruded insulation and their accessories for rated voltages from 1 kV ( $U_m = 1,2$ kV) up to 30 kV ( $U_m = 36$ kV) - Part 1: Cables for rated voltages of 1 kV ( $U_m = 1,2$ kV) and 3 kV ( $U_m = 3,6$ kV)	-	-
IEC 60684-1	2003	Flexible insulating sleeving - Part 1: Definitions and general requirements	EN 60684-1	2003
IEC 60684-2 + A2	1997 2005	Flexible insulating sleeving - Part 2: Methods of test	EN 60684-2 + A2	1997 2005
IEC 60757	1983	Code for designation of colours	HD 457 S1	1985
ISO 846	1997	Plastics - Evaluation of the action of microorganisms	EN ISO 846	1997
ISO 868	2003	Plastics and ebonite - Determination of indentation hardness by means of a durometer (Shore hardness)	EN ISO 868	2003
ISO 11357-3	1999	Plastics - Differential scanning calorimetry (DSC) - Part 3: Determination of temperature and enthalpy of melting and crystallization	-	-
ISO 11358	1997	Plastics - Thermogravimetry (TG) of polymers - General principles	EN ISO 11358	1997

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IEC 60684-3-247

Edition 1.0 2011-06

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Flexible insulating sleeving –  
Part 3: Specifications for individual types of sleeving – Sheet 247: Heat-  
shrinkable, polyolefin sleeving, dual wall, not flame retarded, thick and medium  
wall**

**Gaines isolantes souples –  
Partie 3: Spécifications pour types particuliers de gaines – Feuille 247: Gaines  
thermorétractables en polyoléfine, à double paroi (épaisse et moyenne), non  
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IEC 60684-3-247

Edition 1.0 2011-06

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

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### **Flexible insulating sleeving –**

**Part 3: Specifications for individual types of sleeving – Sheet 247: Heat-shrinkable, polyolefin sleeving, dual wall, not flame retarded, thick and medium wall**

### **Gaines isolantes souples –**

**Partie 3: Spécifications pour types particuliers de gaines – Feuille 247: Gaines thermorétractables en polyoléfine, à double paroi (épaisse et moyenne), non retardées à la flamme**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

PRICE CODE  
CODE PRIX

**M**

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ICS 29.035.20

ISBN 978-2-88912-548-7

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### FLEXIBLE INSULATING SLEEVING –

#### **Part 3: Specifications for individual types of sleeving – Sheet 247: Heat-shrinkable, polyolefin sleeving, dual wall, not flame retarded, thick and medium wall**

### 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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International Standard IEC 60684-3-247 has been prepared by IEC technical committee 15: Solid electrical insulating materials.

The text of this standard is based on the following documents:

FDIS	Report on voting
15/625/FDIS	15/637/RVD

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

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

A list of all the parts in the IEC 60684 series, under the general title *Flexible insulating sleeving*, can be found on the IEC website.

The committee has decided that the contents of this publication 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 flexible insulating sleeving for electrical purposes.

The series consists of three parts:

- Part 1: Definitions and general requirements (IEC 60684-1)
- Part 2: Methods of test (IEC 60684-2)
- Part 3: Specifications for individual types of sleeving (IEC 60684-3)

This standard gives one of the sheets comprising part 3 as follows:

Sheet 247: Heat-shrinkable, polyolefin sleeving, dual wall, not flame retarded, thick and medium wall

## FLEXIBLE INSULATING SLEEVING –

### Part 3: Specifications for individual types of sleeving – Sheet 247: Heat-shrinkable, polyolefin sleeving, dual wall, not flame retarded, thick and medium wall

#### 1 Scope

This part of IEC 60684 gives the requirements for two types of heat-shrinkable, polyolefin sleeving, dual wall, not flame retarded with a nominal shrink ratio of 3:1.

This sleeving has been found suitable for use at temperatures of up to 100 °C.

Type A : Medium wall, internal diameter up to 200,0 mm typically

Type B : Thick wall, internal diameter up to 200,0 mm typically

These sleeveings are normally supplied in colour black.

Since these types of sleeveings cover a significantly large range of sizes and wall thicknesses, Tables A.1 and A.2 provide a guide to the range of sizes available. The actual size shall be agreed between the user and supplier.

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.

#### 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 60296:2003, *Fluids for electrotechnical applications – Unused mineral insulating oils for transformers and switchgear*

IEC 60502-1:2004, *Power cables with extruded insulation and their accessories for rated voltages from 1 kV ( $U_m = 1,2$  kV) up to 30 kV ( $U_m = 36$  kV) – Part 1: Cables for rated voltages of 1 kV ( $U_m = 1,2$  kV) and 3 kV ( $U_m = 3,6$  kV)*

IEC 60684-1:2003, *Flexible insulating sleeving – Part 1: Definitions and general requirements*

IEC 60684-2:1997, *Flexible insulating sleeving – Part 2: Methods of test*  
Amendment 2 (2005)

IEC 60757:1983, *Code for designation of colours*

ISO 846:1997, *Plastics – Evaluation of the action of micro-organisms*

ISO 868: 2003, *Plastics and ebonite – Determination of indentation hardness by means of a durometer (Shore hardness)*

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