

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

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 60684-3-247:2011 sisaldab Euroopa standardi EN 60684-3-247:2011 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 30.09.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

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Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 60684-3-247:2011 consists of the English text of the European standard EN 60684-3-247:2011.

This standard is ratified with the order of Estonian Centre for Standardisation dated 30.09.2011 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

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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
(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)

This European Standard was approved by CENELEC on 2011-07-28. 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.

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CENELEC

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

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.

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

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) | 2012-04-28 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2014-07-28 |

Annex ZA has been added by CENELEC.

Endorsement notice

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

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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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)*

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*

3 Designation

The sleeving shall be identified by the following designation:

Description	IEC publication number	IEC part number	IEC sheet number	Type	Size (expanded and recovered internal diameter in mm)	Colour	Table 4* code
↓	↓	↓	↓	↓	↓	↓	↓
Sleeving	IEC 60684	- 3	- 247	- B	- 85,0/25,0	- BK	X

Any colour abbreviation shall comply with IEC 60757, where applicable. Non-standard colours shall be written out in full.

NOTE This information is for package labelling only, in accordance with IEC 60684-1.

* The addition of "X" at the end of the designation indicates that the properties contained in Table 4 have been agreed upon between the user and supplier.

4 Conditions of test

Unless otherwise specified, the sleeving shall be shrunk in a forced air circulation oven for (10 ± 1) min at $200 \text{ }^{\circ}\text{C} \pm 3 \text{ K}$ prior to testing.

5 Requirements

In addition to the general requirements given in IEC 60684-1, the sleeving shall comply with the requirements of Tables 1, 2, 3, and 4 where applicable.

6 Sleeving conformance

Conformance to the requirements of this specification shall normally be based on the results from typical sizes:

Type A : Recovered ID 25 mm – 30 mm

Type B : Recovered ID 25 mm – 30 mm