

**SLOVENSKI STANDARD**  
**SIST EN 60684-3-247:2011/A1:2017**  
**01-maj-2017**

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**Gibke izolacijske cevi - 3. del: Specifikacije za posamezne tipe cevi - 247. list:  
Toplotno skrčljive poliolefinske cevi z dvojno steno, neognjevarne, debelostenske  
in srednje debele stene - Dopolnilo A1 (IEC 60684-3-247:2011/A1:2016)**

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)

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)

[SIST EN 60684-3-247:2011/A1:2017](https://standards.iteh.ai/catalog/standards/sist/a7705e14-7ae8-4188-9613-1e0000000000/sist-en-60684-3-247-2011-a1-2017)

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)

**Ta slovenski standard je istoveten z: EN 60684-3-247:2011/A1:2017**

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**ICS:**

29.035.20	Plastični in gumeni izolacijski materiali	Plastics and rubber insulating materials
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**SIST EN 60684-3-247:2011/A1:2017 en**

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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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The text of the International Standard IEC 60684-3-247:2011/A1:2016 was approved by CENELEC as a European Standard without any modification.



IEC 60684-3-247

Edition 1.0 2016-12

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

AMENDMENT 1  
AMENDEMENT 1

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

[SIST EN 60684-3-247:2011/A1:2017](https://standards.iteh.ai/catalog/standards/sist/a7705e14-7ae8-4188-9613-2879c1bf8d/sist-en-60684-3-247-2011-a1-2017)

<https://standards.iteh.ai/catalog/standards/sist/a7705e14-7ae8-4188-9613-2879c1bf8d/sist-en-60684-3-247-2011-a1-2017>

**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**

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## FOREWORD

This amendment of IEC 60684-3-247 has been prepared by IEC technical committee 15: Solid electrical insulating materials.

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

CDV	Report on voting
15/754/CDV	15/790/RVC

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

## Introduction

*Add the following text at the end of the existing Introduction:*

Amendment 1 to IEC 60684-3-247 changes the requirements for peel strength. Major problems have been experienced with reliability and repeatability of results when selecting cable jackets of material types PE, PVC and EPR. The method requires conditioning at 150 °C, so careful selection of cable jackets that have a minimum rating exceeding this temperature is essential. Even when cables that exceed this temperature are selected experience has shown reproducible adhesive peel forces are difficult to achieve. While it is appreciated that these cable jackets are used with this type of sleeveings as recovery of the sleeving is normally achieved by either flame or hot air devices. This means of recovery could be inserted into the method, but extensive testing has shown reproducibility of adhesive peel forces still to be major problem. Due to these issues of lack of reliability and repeatability these substrates have been removed. Lead has also been removed due to health and safety reasons. Additional text has been included to aid clarification of the method that deviates from Clause 54 of IEC 60684-2:2011.

## 6 Sleeving conformance

*Add, after the indication "Type B: Recovered ID 25 mm – 30 mm", the following paragraph as a last sentence to Clause 6:*

For the peel strength test, select a size to comply with the dimensions as detailed under remarks in Table 1.

## Table 1 – Property requirements

*Replace the existing text of the two last rows as well as Notes 1 and 2 of this table by the following (the column headers are repeated here for information):*

Property	IEC 60684-2 clause or subclause	Units	Max. or Min.	Requirements	Remarks
Peel strength	54	N/25 mm	Min.	Cu – 50 Al – 75. PO-X – 100	<p>Use as Cu or Al tube with a minimum outer diameter of 25 mm and at least 20 % above the fully recovered internal diameter of the sleeving. The sleeving under test shall have a thickness of 2,0 mm ± 0,5 mm when recovered on the tube. Other substrate materials and methods are subject to agreement between the supplier and the user.</p> <p>Prepare the Cu and Al tubes in the manner defined in IEC 60684-2:2011, 54.3. Precondition the prepared Cu and Al tubes in an oven at 100 °C for at least 30 min. Immediately place the sleeving on the prepared Cu or Al tubes and condition at 150 °C ± 3 K for (10 ± 1) min.</p> <p>To make the cross-linked polyolefin (PO-X) specimens shrink the sleeving onto the Cu or Al tubes by conditioning at 150 °C ± 3 K for (10 ± 1) min. Allow to cool, then abrade and clean the outer surface as detailed in IEC 60684-2:2011, 54.3. Finally, fix the narrow strip of adhesive masking tape longitudinally on the sleeving, then place the same sleeving on top and condition at 150 °C ± 3 K for (10 ± 1) min.</p>
Melting temperature	ISO 11357-3	°C	Min.	100	<p>Adhesive only</p> <p>Value to be recorded is peak melting temperature (T<sub>pm</sub>)</p>