



IEC 60684-3-280

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# INTERNATIONAL STANDARD



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**Flexible insulating sleeving –  
Part 3: Specifications for individual types of sleeving –  
Sheet 280: Heat-shrinkable, polyolefin sleeving, anti-tracking**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### FLEXIBLE INSULATING SLEEVING –

### Part 3: Specifications for individual types of sleeving – Sheet 280: Heat-shrinkable, polyolefin sleeving, anti-tracking

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- 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 60684-3-280 has been prepared by IEC technical committee 15: Solid electrical insulating materials.

This second edition cancels and replaces the first edition published in 2010 and Amendment 1:2013. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) change of moulded plaque thickness for resistance to tracking and weathering tests to  $(6 \pm 0,5)$  mm.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
15/891/FDIS	15/898/RVD

Full information on the voting for the approval of this International Standard can be found in the report

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

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

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## INTRODUCTION

This document is one of a series of standards 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 document comprises one of the sheets of Part 3 as follows:

Sheet 280: Heat-shrinkable, polyolefin sleeving, anti-tracking

## FLEXIBLE INSULATING SLEEVING –

### Part 3: Specifications for individual types of sleeving – Sheet 280: Heat-shrinkable, polyolefin sleeving, anti-tracking

#### 1 Scope

This part of IEC 60684 gives the requirements for heat-shrinkable, polyolefin sleeving, anti-tracking with a nominal shrink ratio of 3:1.

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

Typically: medium wall, internal diameter up to 110 mm.

~~These sleeveings are~~ This sleeving is normally supplied in the colours red or brown.

Since these types of sleeveings cover a significantly large range of sizes and wall thicknesses, Annex A (Table A.1) provides guidance on the range of sizes available. The actual size ~~shall~~ will be agreed between the user and the 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~~ will be based on the actual requirements necessary for adequate performance in that application and not based on this specification alone.

This sleeving is designed to be used in medium voltage cable accessories and as such electrical performance ~~must~~ will be proven as part of the assembly. Examples of this are described in HD 629.1 and IEC 60502 (all parts).

#### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60296:2003/2012, *Fluids for electrotechnical applications – Unused mineral insulating oils for transformers and switchgear*

~~IEC 60502 (all parts), 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)~~

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

IEC 60684-2:1997/2011, *Flexible insulating sleeving – Part 2: Methods of test*  
~~Amendment 1 (2003)~~  
~~Amendment 2 (2005)~~

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

ISO 846:1997/2019, *Plastics – Evaluation of the action of micro-organisms*

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ISO 4892-3:20062016, *Plastics – Methods of exposure to laboratory light sources – Part 3: Fluorescent UV lamps*

~~HD 629, Test requirements on accessories for use on power cables of rated voltages from 3,6/6(7,2)kV up to 20,8/36 (42)kV – Part 1: Cables with extruded insulation~~

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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**Flexible insulating sleeving –  
Part 3: Specifications for individual types of sleeving –  
Sheet 280: Heat-shrinkable, polyolefin sleeving, anti-tracking**

**Gaines isolantes souples –  
Partie 3: Spécifications pour types particuliers de gaines –  
Feuille 280: Gaines thermorétractables, en polyoléfine, anticheminement**





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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### FLEXIBLE INSULATING SLEEVING –

### Part 3: Specifications for individual types of sleeving – Sheet 280: Heat-shrinkable, polyolefin sleeving, anti-tracking

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## FLEXIBLE INSULATING SLEEVING –

### Part 3: Specifications for individual types of sleeving – Sheet 280: Heat-shrinkable, polyolefin sleeving, anti-tracking

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

IEC 60684-2:2011, *Flexible insulating sleeving – Part 2: Methods of test*

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

ISO 846:2019, *Plastics – Evaluation of the action of micro-organisms*

ISO 4892-3:2016, *Plastics – Methods of exposure to laboratory light sources – Part 3: Fluorescent UV lamps*

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## COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

### GAINES ISOLANTES SOUPLES –

#### **Partie 3: Spécifications pour types particuliers de gaines – Feuille 280: Gaines thermorétractables, en polyoléfine, anticheminement**

#### AVANT-PROPOS

- 1) La Commission Electrotechnique Internationale (IEC) est une organisation mondiale de normalisation composée de l'ensemble des comités électrotechniques nationaux (Comités nationaux de l'IEC). L'IEC a pour objet de favoriser la coopération internationale pour toutes les questions de normalisation dans les domaines de l'électricité et de l'électronique. A cet effet, l'IEC – entre autres activités – publie des Normes internationales, des Spécifications techniques, des Rapports techniques, des Spécifications accessibles au public (PAS) et des Guides (ci-après dénommés "Publication(s) de l'IEC"). Leur élaboration est confiée à des comités d'études, aux travaux desquels tout Comité national intéressé par le sujet traité peut participer. Les organisations internationales, gouvernementales et non gouvernementales, en liaison avec l'IEC, participent également aux travaux. L'IEC collabore étroitement avec l'Organisation Internationale de Normalisation (ISO), selon des conditions fixées par accord entre les deux organisations.
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La Norme internationale IEC 60684-3-280 a été établie par le comité d'études 15 de l'IEC: Matériaux isolants électriques solides.

Cette deuxième édition annule et remplace la première édition parue en 2010 et l'Amendement 1:2013. Cette édition constitue une révision technique.

La présente édition inclut la modification technique majeure suivante par rapport à l'édition précédente:

- a) modification de l'épaisseur des plaques moulées pour les essais de résistance aux courants de cheminement et les essais de résistance aux intempéries qui devient  $(6 \pm 0,5)$  mm.

Le texte de cette Norme internationale est issu des documents suivants:

FDIS	Rapport de vote
15/891/FDIS	15/898/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à l'approbation de cette Norme internationale.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2.

Une liste de toutes les parties de la série IEC 60684, publiées sous le titre général *Gaines isolantes souples*, peut être consultée sur le site web de l'IEC.

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- amendé.



## INTRODUCTION

Le présent document fait partie d'une série de normes traitant des gaines isolantes souples à usages électriques.

Cette série est constituée de trois parties:

Partie 1: Définitions et exigences générales (IEC 60684-1)

Partie 2: Méthodes d'essai (IEC 60684-2)

Partie 3: Spécifications pour types particuliers de gaines (IEC 60684-3)

Le présent document contient l'une des feuilles qui composent la Partie 3, comme suit:

Feuille 280: Gains thermorétractables, en polyoléfine, anticheminement

## GAINES ISOLANTES SOUPLES –

### Partie 3: Spécifications pour types particuliers de gaines – Feuille 280: Gains thermorétractables, en polyoléfine, anticheminement

#### 1 Domaine d'application

La présente partie de l'IEC 60684 donne les exigences relatives aux gaines thermorétractables, en polyoléfine, anticheminement, présentant un rapport de rétreint nominal de 3:1.

Ces gaines se sont avérées appropriées pour une utilisation à des températures allant jusqu'à 100 °C.

Généralement: paroi moyenne, diamètre intérieur jusqu'à 110 mm.

Ces gaines sont normalement disponibles en rouge ou en brun.

Comme ces types de gaines couvrent une plage très étendue de tailles et d'épaisseurs de paroi, l'Annexe A (Tableau A.1) donne des recommandations sur la plage des tailles disponibles. La taille réelle fait l'objet d'un accord entre l'utilisateur et le fournisseur.

Les matériaux conformes à la présente spécification satisfont à des niveaux de performances établis. Cependant, le choix d'un matériau par un utilisateur, pour une application spécifique, est fondé sur les exigences réelles nécessaires pour obtenir des performances adéquates pour l'application concernée, et n'est pas fondé sur cette seule spécification.

Cette gaine est conçue pour être utilisée dans des accessoires de câbles moyenne tension, et, en conséquence, les performances électriques sont prouvées dans le cadre de l'assemblage. Des exemples sont décrits dans le HD 629.1 et dans l'IEC 60502 (toutes les parties).

#### 2 Références normatives

Les documents suivants cités dans le texte constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 60296:2012, *Fluides pour applications électrotechniques – Huiles minérales isolantes neuves pour transformateurs et appareillages de connexion*

IEC 60684-1:2003, *Gaines isolantes souples – Partie 1: Définitions et exigences générales.*

IEC 60684-2:2011, *Gaines isolantes souples – Partie 2: Méthodes d'essai*

IEC 60757:1983, *Code de désignation de couleurs*

ISO 846:2019, *Plastiques – Évaluation de l'action des micro-organismes*

ISO 4892-3:2016, *Plastiques – Méthodes d'exposition à des sources lumineuses de laboratoire – Partie 3: Lampes fluorescentes UV*