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REDLINE VERSION

**Fasta isolermaterial –
Flexibel isolerslang för elektriska ändamål –
Del 3: Specifikationer för enstaka typer av isolerslang –
Blad 282: Värmekrympande polyolefin, spänningskontrollerande**

Flexible insulating sleeving –

Part 3: Specifications for individual types of sleeving –

Sheet 282: Heatshrinkable, polyolefin sleeving –

Stress control

En så kallad ”Redline version” (RLV) innehåller både standarden som fastställts som SEK-publication och en ändringsmarkerad IEC-standard. Alla tillägg och borttagningar sedan den tidigare utgåvan av IEC-standarderna är markerade med färg. Med en RLV sparar du mycket tid när du ska identifiera och bedöma aktuella ändringar i standarderna. SEK Svensk Elstandard kan bara ge ut RLV i de fall den finns tillgänglig från IEC.



IEC 60684-3-282

Edition 2.0 2025-05
REDLINE VERSION

INTERNATIONAL STANDARD

**Flexible insulating sleeving –
Part 3: Specifications for individual types of sleeving – Sheet 282: Heat-
shrinkable, polyolefin sleeving – Stress control**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FLEXIBLE INSULATING SLEEVING –

Part 3: Specifications for individual types of sleeving – Sheet 282: Heat-shrinkable, polyolefin sleeving – Stress control

FOREWORD

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- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
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- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 60684-3-282:2010. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

IEC 60684-3-282 has been prepared by IEC technical committee 15: Solid electrical insulating materials. It is an International Standard.

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

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

- a) Clause for secant modulus corrected.

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

Draft	Report on voting
15/1045/FDIS	15/1060/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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 document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

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:

IEC 60684-1: Definitions and general requirements

IEC 60684-2: Methods of test

IEC 60684-3: Specifications for individual types of sleeving

This document comprises one of the sheets of IEC 60684-3 as follows:

Sheet 282: Heat-shrinkable, polyolefin sleeving – Stress control

This sleeving is normally supplied in the colour black.

Materials which conform to this specification meet established levels of performance. However, the selection of a material by a user for a specific application 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 MV cable accessories and as such electrical performance will be proven as part of the assembly. Examples of this are described in HD 629 and IEC 60502 (all parts).

FLEXIBLE INSULATING SLEEVING –

Part 3: Specifications for individual types of sleeving – Sheet 282: Heat-shrinkable, polyolefin sleeving – Stress control

1 Scope

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

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

- Type A: Medium wall Internal diameter up to 65,0 mm typically
- Type B: Thick wall Internal diameter up to 95,0 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, Annex A provides guidance to 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 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 MV cable accessories and as such electrical performance must be proven as part of the assembly. Examples of this are described in HD 629 and the IEC 60502 series.~~

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~~, *Fluids for electrotechnical applications – ~~Unused Mineral insulating oils for transformers and switchgear~~ Mineral insulating oils for electrical equipment*

~~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~~2025, *Flexible insulating sleeving – Part 2: Methods of test*
~~Amendment 1 (2003)~~
~~Amendment 2 (2005)~~

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

~~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~~

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Blad 282: Värmekrympande polyolefin, spänningskontrollerande**

*Flexible insulating sleeving –
Part 3: Specifications for individual types of sleeving –
Sheet 282: Heatshrinkable, polyolefin sleeving –
Stress control*

Som svensk standard gäller europastandarden EN IEC 60684-3-282:2025. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60684-3-282:2025.

Nationellt förord

Europastandarden EN IEC 60684-3-282:2025

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60684-3-282, Second edition, 2025 - Flexible insulating sleeving – Part 3: Specifications for individual types of sleeving – Sheet 282: Heatshrinkable, polyolefin sleeving – Stress control**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 60684-3-282, utg 1:2011 med eventuella tillägg, ändringar och rättelser gäller ej fr o m 2028-06-30.

Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

Genom att utforma sådana standarder blir säkerhetsfordringar tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

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SEK är Sveriges röst i standardiseringsarbetet inom elområdet

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SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

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Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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English Version

Flexible insulating sleeving - Part 3: Specifications for individual types of sleeving - Sheet 282: Heat-shrinkable, polyolefin sleeving - Stress control
(IEC 60684-3-282:2025)

Gaines isolantes souples - Partie 3: Spécifications pour types particuliers de gaines - Feuille 282: Gaines thermorétractables en polyoléfine - Contrôle de contrainte
(IEC 60684-3-282:2025)

Isolierschläuche - Teil 3: Anforderungen für einzelne Schlauchtypen - Blatt 282: Polyolefin-Wärmeschrumpfschläuche mit Feldsteuerung
(IEC 60684-3-282:2025)

This European Standard was approved by CENELEC on 2025-06-06. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 15/1045/FDIS, future edition 2 of IEC 60684-3-282, prepared by TC 15 "Solid electrical insulating materials" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60684-3-282:2025.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2026-06-30 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2028-06-30 document have to be withdrawn

This document supersedes EN 60684-3-282:2010 and all of its amendments and corrigenda (if any).

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

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 60684-3-282:2025 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60684-3 (all sheets) NOTE Approved as EN 60684-3 (all sheets)

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cencenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60296	-	Fluids for electrotechnical applications - Mineral insulating oils for electrical equipment	EN IEC 60296	-
IEC 60684-1	-	Flexible insulating sleeving - Part 1: Definitions and general requirements	EN 60684-1	-
IEC 60684-2	2025	Flexible insulating sleeving - Part 2: Methods of test	EN IEC 60684-2	-
IEC 60757	-	Code for designation of colours	EN IEC 60757	-

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Flexible insulating sleeving –
Part 3: Specifications for individual types of sleeving – Sheet 282: Heat-
shrinkable, polyolefin sleeving – Stress control**

**Gaines isolantes souples –
Partie 3: Spécifications pour types particuliers de gaines – Feuille 282: Gaines
thermorétractables en polyoléfine – Contrôle de contrainte**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FLEXIBLE INSULATING SLEEVING –**Part 3: Specifications for individual types of sleeving –
Sheet 282: Heat-shrinkable, polyolefin sleeving – Stress control****FOREWORD**

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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:

IEC 60684-1: Definitions and general requirements

IEC 60684-2: Methods of test

IEC 60684-3: Specifications for individual types of sleeving

This document comprises one of the sheets of IEC 60684-3 as follows:

Sheet 282: Heat-shrinkable, polyolefin sleeving – Stress control

This sleeving is normally supplied in the colour black.

Materials which conform to this specification meet established levels of performance. However, the selection of a material by a user for a specific application 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 MV cable accessories and as such electrical performance will be proven as part of the assembly. Examples of this are described in HD 629 and IEC 60502 (all parts).

FLEXIBLE INSULATING SLEEVING –

Part 3: Specifications for individual types of sleeving – Sheet 282: Heat-shrinkable, polyolefin sleeving – Stress control

1 Scope

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

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

- Type A: Medium wall Internal diameter up to 65,0 mm typically
- Type B: Thick wall Internal diameter up to 95,0 mm typically

Since these types of sleeveings cover a significantly large range of sizes and wall thicknesses, Annex A provides guidance to the range of sizes available. The actual size will be agreed between the user and the supplier.

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

IEC 60684-2:2025, *Flexible insulating sleeving – Part 2: Methods of test*

IEC 60757, *Code for designation of colours*