

**Flexible insulating sleeving Part 3:
Specifications for individual types of
sleeving Sheet 212: Heat-shrinkable
polyolefin sleeveings**

Flexible insulating sleeving Part 3: Specifications for individual types of sleeving Sheet 212: Heat-shrinkable polyolefin sleeveings

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 60684-3-212:2006 sisaldab Euroopa standardi EN 60684-3-212:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 19.05.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 60684-3-212:2006 consists of the English text of the European standard EN 60684-3-212:2006.</p> <p>This document is endorsed on 19.05.2006 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

<p>Käsitlusala: This standard gives the requirements for four types of heat-shrinkable polyolefin sleeveings suitable for use at temperatures up to 135 °C. Type A Flame retarded, shrink ratio 2:1 Type B Not flame retarded, shrink ratio 2:1 Type C Flame retarded, shrink ratio 3:1 Type D Not flame retarded shrink ratio 3:1</p>	<p>Scope: This standard gives the requirements for four types of heat-shrinkable polyolefin sleeveings suitable for use at temperatures up to 135 °C. Type A Flame retarded, shrink ratio 2:1 Type B Not flame retarded, shrink ratio 2:1 Type C Flame retarded, shrink ratio 3:1 Type D Not flame retarded shrink ratio 3:1</p>
---	---

ICS 29.035.01

Võtmesõnad: breakdown voltage, characteristics, designation, dimensions, flexible conductors, heat-shrinkable materials, individual specifications, mass, polyolefins, protection sleeveings, solid electrical insulating materials, tables of data

English version

Flexible insulating sleeving
Part 3: Specifications for individual types of sleeving
Sheet 212: Heat-shrinkable polyolefin sleeveings
(IEC 60684-3-212:2005)

Gaines isolantes souples
Partie 3: Spécifications
pour types particuliers de gaines
Feuille 212: Gaines thermorétractables
en polyoléfine
(CEI 60684-3-212:2005)

Isolierschläuche
Teil 3: Anforderungen
für einzelne Schlauchtypen
Blatt 212: Polyolefin-
Wärmeschrumpfschläuche
(IEC 60684-3-212:2005)

This European Standard was approved by CENELEC on 2005-11-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 15/229/FDIS, future edition 2 of IEC 60684-3-212, prepared by IEC TC 15, Standards on specifications for electrical insulating materials, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60684-3-212 on 2005-11-01.

This European Standard supersedes EN 61684-3-212:1998, EN 60684-3-213:1999, EN 60684-3-217:1998 and EN 60684-3-218:1998.

This European Standard includes the following significant changes with regards to EN 60684-3-212:1998:

Replacement of the thermal endurance test method according to EN 60216 with a long term ageing test, i.e. 3 000 h at the recommended maximum temperature found suitable for use, to provide safe thermal test data within a workable time scale.

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) 2006-09-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2008-11-01

This European Standard makes reference to International Standards. Where the International Standard referred to has been endorsed as a European Standard or a home-grown European Standard exists, this European Standard shall be applied instead. Pertinent information can be found on the CENELEC web site.

Endorsement notice

The text of the International Standard IEC 60684-3-212:2005 was approved by CENELEC as a European Standard without any modification.

generated by EVS

**INTERNATIONAL
STANDARD**

**IEC
60684-3-212**

Second edition
2005-11

Flexible insulating sleeving –

**Part 3:
Specifications for individual types of sleeving –
Sheet 212: Heat-shrinkable polyolefin sleeveings**



Reference number
IEC 60684-3-212:2005(E)

Publication numbering

As from 1 January 1997 all IEC publications are issued with a designation in the 60000 series. For example, IEC 34-1 is now referred to as IEC 60034-1.

Consolidated editions

The IEC is now publishing consolidated versions of its publications. For example, edition numbers 1.0, 1.1 and 1.2 refer, respectively, to the base publication, the base publication incorporating amendment 1 and the base publication incorporating amendments 1 and 2.

Further information on IEC publications

The technical content of IEC publications is kept under constant review by the IEC, thus ensuring that the content reflects current technology. Information relating to this publication, including its validity, is available in the IEC Catalogue of publications (see below) in addition to new editions, amendments and corrigenda. Information on the subjects under consideration and work in progress undertaken by the technical committee which has prepared this publication, as well as the list of publications issued, is also available from the following:

- **IEC Web Site** (www.iec.ch)

- **Catalogue of IEC publications**

The on-line catalogue on the IEC web site (www.iec.ch/searchpub) enables you to search by a variety of criteria including text searches, technical committees and date of publication. On-line information is also available on recently issued publications, withdrawn and replaced publications, as well as corrigenda.

- **IEC Just Published**

This summary of recently issued publications (www.iec.ch/online_news/justpub) is also available by email. Please contact the Customer Service Centre (see below) for further information.

- **Customer Service Centre**

If you have any questions regarding this publication or need further assistance, please contact the Customer Service Centre:

Email: custserv@iec.ch
Tel: +41 22 919 02 11
Fax: +41 22 919 03 00

INTERNATIONAL STANDARD

IEC 60684-3-212

Second edition
2005-11

Flexible insulating sleeving –

Part 3: Specifications for individual types of sleeving – Sheet 212: Heat-shrinkable polyolefin sleeveings

© IEC 2005 — Copyright - all rights reserved

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE

M

For price, see current catalogue

CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references.....	6
3 Designation.....	7
4 Conditions of test.....	7
5 Requirements.....	7
6 Sleeving conformance.....	7
7 Breakdown voltage.....	11
Table 1 – Dimensional and mass requirements for Types A and B.....	8
Table 2 – Dimensional and mass requirements for Types C and D.....	8
Table 3 – Property requirements.....	9
Table 4 – Requirements for breakdown voltage.....	11
Table 5 – Resistance to selected fluids.....	12
Table 6 – Additional property requirements.....	12

This document is a preview generated by EVS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

FLEXIBLE INSULATING SLEEVING –**Part 3: Specifications for individual types of sleeving –
Sheet 212: Heat-shrinkable polyolefin sleeveings**

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.
- 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.
- 5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 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) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60684-3-212 has been prepared by IEC technical committee 15: Standards on specifications for electrical Insulating materials.

This second edition cancels and replaces the first edition published in 1998, and constitutes a technical revision.

This edition includes the following significant changes with regards to the previous edition:

Replacement of the thermal endurance test method according to IEC 60216 with a long term ageing test, i.e. 3 000 h at the recommended maximum temperature found suitable for use, to provide safe thermal test data within a workable time scale.

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

FDIS	Report on voting
15/229/FDIS	15/247/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.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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.

A bilingual version of this publication may be issued at a later date.

This document is a preview generated by EVS

INTRODUCTION

This International Standard is part 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 is one of the sheets comprising Part 3, as follows:

Sheet 212: Heat-shrinkable polyolefin sleeveings.

This document is a preview generated by EVS

FLEXIBLE INSULATING SLEEVING –

Part 3: Specifications for individual types of sleeving – Sheet 212: Heat-shrinkable polyolefin sleeveings

1 Scope

This standard gives the requirements for four types of heat-shrinkable polyolefin sleeveings suitable for use at temperatures up to 135 °C.

Type A Flame retarded, shrink ratio 2:1

Type B Not flame retarded, shrink ratio 2:1

Type C Flame retarded, shrink ratio 3:1

Type D Not flame retarded shrink ratio 3:1

These sleeveings are normally supplied with internal diameters up to 102 mm for shrink ratios of 2:1 and up to 39 mm for shrink ratios of 3:1 and in the following colours for types A and C: black, brown, red, yellow, green, blue, orange, violet, grey, white and green/yellow. Types B and D are transparent.

Sizes or colours other than those specifically listed in this standard may be available as custom items. These items are considered to comply with this standard if they comply with the property requirements listed in Tables 3, 4, 5 and 6 except for dimensions and mass.

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

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

IEC 60684-2 Amendment 1: 2003, *Flexible insulating sleeving – Part 2: Methods of test*

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

ISO 846:1997, *Plastics – Evaluation of the action of microorganisms*

ISO 1817:1999, *Rubber, vulcanized – Determination of the effect of liquids*