

**SLOVENSKI STANDARD**  
**SIST EN 60684-3-343 to 345:2001**  
**01-marec-2001**

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**Specification for flexible insulating sleeving - Part 3: Specification requirements for individual types of sleeving - Sheets 343 to 345: Expandable braided ethylene chlorotrifluoroethylene (E-CTFE), textile sleeving, uncoated (IEC 60684-3-343 to 345:1992)**

Specification for flexible insulating sleeving -- Part 3: Specification requirements for individual types of sleeving -- Sheets 343 to 345: Expandable braided ethylene chlorotrifluoroethylene (E-CTFE) textile sleeving, uncoated

**STANDARD PREVIEW**

Bestimmung für Isolierschläuche -- Teil 3: Bestimmungen für einzelne Schlauchtypen -- Blätter 343 bis 345: Aufweitbare, geflochtene Ethylen-Chlorotrifluorethylen-Textilschläuche (E-CTFE), unbeschichtet

<https://standards.iteh.ai/catalog/standards/sist/7d0132a3-5416-4350-9688-b20a725c1b0e/sist-en-60684-3-343-to-345-2001>

Spécification pour gaines isolantes souples -- Partie 3: Spécifications particulières aux types particuliers de gaines -- Feuilles 343 à 345: Gainex expansibles tressées, en éthylène chlorotrifluoroéthylène (E-CTFE), tissées, non revêtues

**Ta slovenski standard je istoveten z: EN 60684-3-343 to 345:1994**

**ICS:**

29.035.20 Účel { } Á { ^ } [ | \ ã Plastics and rubber insulating materials

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UDC 621.315.616:621.315.671

Descriptors: Electrical insulating materials, protectors sleeveings, expandable sleeveings, chlorotrifluoroethylene, textile sleeveings

## ENGLISH VERSION

Specification for flexible insulating sleeving  
Part 3: Specification requirements for individual types of sleeving  
Sheets 343 to 345: Expandable braided ethylene chlorotrifluoroethylene (E-CTFE) textile sleeving, uncoated  
(IEC 684-3-343 to 345:1992)

Spécification pour gaines isolantes souples  
Partie 3: Spécifications particulières aux types particuliers de gaines  
Feuilles 343 à 345: Gains expansibles tressées, en éthylène chlorotrifluoroéthylène (E-CTFE), tissées, non revêtues  
(CEI 684-3-343 à 345:1992)

Bestimmung für flexible Isolierschläuche  
Teil 3: Anforderungen für einzelne Schlauchtypen  
Blätter 343 bis 345: Aufweitbare, geflochtene Ethylen-Chlorotrifluorethylen-Textilschläuche (E-CTFE), unbeschichtet  
(IEC 684-3-343 bis 345:1992)

SIST EN 60684-3-343 to 345:2001

<https://standards.iteh.ai/catalog/standards/sist/7d0132a3-5416-4350-8208-226722250024-60684-3-343-1992>

This European Standard was approved by CENELEC on 1993-12-08.

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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and 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 CENELEC questionnaire procedure, performed for finding out whether or not the International Standard IEC 684-3-343 to 345:1992 could be accepted without textual changes, has shown that no common modifications were necessary for the acceptance as European Standard.

The reference document was submitted to the CENELEC members for formal vote and was approved by CENELEC as EN 60684-3-343 to 345 on 8 December 1993.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1994-12-01
- latest date of withdrawal of conflicting national standards (dow) 1994-12-01

For products which have complied with the relevant national standard before 1994-12-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1999-12-01.

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**(ENDORSEMENT NOTICE h.ai)**

The text of the International Standard IEC 684-3-343 to 345:1992 was approved by CENELEC as a European Standard without any modification.



NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD

CEI  
IEC  
684-3-343  
à/to 345

Première édition  
First edition  
1992-04

**Spécification pour gaines isolantes souples**

**Troisième partie:**

Spécifications particulières aux types particuliers  
de gaines

Feuilles 343 à 345: Gainés expansibles tressés,  
en éthylène chlorotrifluoroéthylène (E-CTFE),  
tissés, non revêtus

[SIST EN 60684-3-343 to 345:2001](https://standards.iteh.ai/catalog/standards/sist/7d0132a3-5416-4350-9688-b20a725c1b0e/sist-en-60684-3-343-to-345-2001)

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[9688-b20a725c1b0e/sist-en-60684-3-343-to-345-2001](https://standards.iteh.ai/catalog/standards/sist/7d0132a3-5416-4350-9688-b20a725c1b0e/sist-en-60684-3-343-to-345-2001)

**Specification for flexible insulating sleeving**

**Part 3:**

Specification requirements for individual types  
of sleeving

Sheets 343 to 345: Expandable braided ethylene  
chlorotrifluoroethylene (E-CTFE) textile sleeving,  
uncoated

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International Electrotechnical Commission  
Международная Электротехническая Комиссия

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## SPECIFICATION FOR FLEXIBLE INSULATING SLEEVING

Part 3: Specification requirements for  
individual types of sleeving  
Sheets 343 to 345: Expandable braided ethylene  
chlorotrifluoroethylene (E-CTFE) textile sleeving, uncoated

## FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

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This standard has been prepared by Sub-Committee 15C: Specifications, of IEC Technical Committee No. 15: Insulating materials.

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

Six Months' Rule	Report on Voting
15C(CO)261	15C(CO)282

Full information on the voting for the approval of this standard can be found in the Voting Report indicated in the above table.

## INTRODUCTION

This International Standard is one of a series which deals with flexible insulating sleeving for electrical purposes.

This series consists of three parts:

Part 1: Definition and general requirements (IEC 684-1).

Part 2: Methods of test (IEC 684-2).

Part 3: Specification requirements for individual types of sleeving (IEC 684-3).

This standard contains the following three sheets which comprise Part 3:

- Sheet 343: Expandable braided ethylene chlorotrifluoroethylene (E-CTFE) textile sleeving, uncoated, thin wall.
- Sheet 344: Expandable braided ethylene chlorotrifluoroethylene (E-CTFE) textile sleeving, uncoated, intermediate wall.
- Sheet 345: Expandable braided ethylene chlorotrifluoroethylene (E-CTFE) textile sleeving, uncoated, thick wall.

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## SPECIFICATION FOR FLEXIBLE INSULATING SLEEVING

### Part 3: Specification requirements for individual types of sleeving Sheets 343 to 345: Expandable braided ethylene chlorotrifluoroethylene (E-CTFE) textile sleeving, uncoated

#### 1 Scope

This International Standard gives requirements for sleeving which has the property of expanding its bore diameter when compressed longitudinally and thereafter returning to its initial diameter after release of the compressing force. It is constructed of ethylene chlorotrifluoroethylene (E-CTFE) monofilament yarns suitably processed to provide mechanical ability to conform in the manner described above.

Sleeving of this type is generally available in bore sizes for 6 mm to 63 mm and in three levels of wall thickness (thin, intermediate, and thick). It has been found suitable for applications up to 155 °C.

It is normally available in the following colours:

Black, white, brown, red, orange, yellow, green, blue, grey and natural.

Because of its open construction, this sleeving is normally used to provide air-gap insulation. Therefore, no requirement for breakdown voltage is specified in this standard. (Any value for this property would be given in the purchase contract, but a typical value is 1,5 kV/mm of wall thickness, although a linear relationship cannot be assumed). However, it serves to provide mechanical protection to circuit components such as wires, sleeves and flat cable over which it is applied as a containing wrap or harness.

#### 2 Designation

The sleeving shall be identified by one of the following means:

- a) in words and numbers;
- b) by the following designation;
- c) by both the above.

If a designation is used to identify this material with this standard, it shall be as follows:

IEC 684-3-343 - nominal bore size in mm - colour  
e.g.: IEC 684-3-343-6-red

If abbreviations for colour are used, they shall be in accordance with IEC 757 (1983).



If the sleeving is to be supplied with additional properties of mould resistance or fray resistance referred to in 3.2, then the letter "X" shall be added to the end of the designation:

The addition of "X" at the end of the identification indicates that one or more of the special requirements have been agreed and included in the purchase contract.

e.g.: IEC 684-3-343-6-colour-X

### 3 Requirements

#### 3.1 Basic requirements for compliance

Sleeving shall comply with the requirements of both:

- a) IEC 684-1, and
- b) tables 1 and 2 of this standard.

#### 3.2 Special additional requirements

If the sleeving is to be supplied with specific resistance to mould growth or fraying, it shall also comply with the appropriate requirements of table 3.

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Table 1 - Dimensional requirements

Nominal bore size mm	Minimum inside diameter in fully expanded state (by longitudinal compression) mm
6	9
10	15
12	19
16	27
20	30
30	42
32	45
40	60
45	70
50	89
60	107
63	114
Wall thicknesses: Sheet 343 - Thin wall - 0,30 mm minimum Sheet 344 - Intermediate wall - 0,50 mm minimum Sheet 345 - Thick wall - 0,75 mm minimum	
NOTE - Wall thickness dimensions shall be measured to the nearest 0,05 mm, using the procedure of 3.2 in IEC 684-2.  Because of the ease with which this sleeving can be expanded, care must be exercised in measuring the relaxed bore using the plug gauges described in 3.1 of IEC 684-2. (The inside diameter in the fully relaxed state shall not be greater than the nominal bore size.)	