



National Standards Authority of Ireland

STANDARD

I.S. EN 60684-3-228:2004

ICS 29.035.20

**FLEXIBLE INSULATING SLEEVING PART 3:  
SPECIFICATIONS FOR INDIVIDUAL TYPES OF  
SLEEVING SHEET 228: HEAT-SHRINKABLE,  
SEMI-RIGID POLYVINYLIDENE FLUORIDE  
SLEEVING, FLAME RETARDED, FLUID  
RESISTANT, SHRINK RATIO 2:1 (IEC  
60684-3-228:2004)**

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EUROPEAN STANDARD

**EN 60684-3-228**

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2004

ICS 29.035.20

Supersedes EN 60684-3-228:1998

English version

**Flexible insulating sleeving**  
**Part 3: Specifications for individual types of sleeving**  
**Sheet 228: Heat-shrinkable, semi-rigid polyvinylidene fluoride sleeving,**  
**flame retarded, fluid resistant, shrink ratio 2:1**  
**(IEC 60684-3-228:2004)**

Gaines isolantes souples  
Partie 3: Spécifications pour types  
particuliers de gaines  
Feuille 228: Gaines thermorétractables  
semi-rigides en fluorure de polyvinylidène,  
retardées à la flamme, résistant  
aux fluides, rapport de rétreint 2:1  
(CEI 60684-3-228:2004)

Isolierschläuche  
Teil 3: Anforderungen für einzelne  
Schlauchtypen  
Blatt 228: Wärmeschrumpfende  
Polyvinylidenefluoridschläuche, halbsteif,  
flammwidrig, flüssigkeitsbeständig,  
Schrumpfverhältnis 2:1  
(IEC 60684-3-228:2004)

This European Standard was approved by CENELEC on 2004-07-01. 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, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, 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 text of document 15C/1599/FDIS, future edition 2 of IEC 60684-3-228, prepared by SC 15C, Specifications, of IEC TC 15, Insulating materials, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60684-3-228 on 2004-07-01.

This European Standard supersedes EN 60684-3-228:1998.

The significant technical change with regard to EN 60684-2-228:1998 is:

- 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, in order 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) 2005-04-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2007-07-01

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 60684-3-228:2004 was approved by CENELEC as a European Standard without any modification.

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## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60684-1	2003	Flexible insulating sleeving Part 1: Definitions and general requirements	EN 60684-1	2003
IEC 60684-2 A1	1997 2003	Part 2: Methods of test	EN 60684-2 A1	1997 2003
IEC 60757	1983	Code for designation of colours	HD 457 S1	1985
ISO 846	1997	Plastics - Evaluation of the action of micro-organisms	EN ISO 846	1997
ISO 1817	1999	Rubber, vulcanized - Determination of the effect of liquids	-	-



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