



**NSAI**  
Standards

Irish Standard  
I.S. EN 4708-101:2017

Aerospace series - Sleeving, heat-shrinkable,  
for binding, insulation and identification -  
Part 101: Polyolefin sleeving - Operating  
temperatures -55 °C to 135 °C - Product  
standard

**I.S. EN 4708-101:2017**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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## National Foreword

I.S. EN 4708-101:2017 is the adopted Irish version of the European Document EN 4708-101:2017, Aerospace series - Sleeving, heat-shrinkable, for binding, insulation and identification - Part 101: Polyolefin sleeving - Operating temperatures -55 °C to 135 °C - Product standard

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**EUROPEAN STANDARD**  
**NORME EUROPÉENNE**  
**EUROPÄISCHE NORM**

**EN 4708-101**

March 2017

ICS 49.060

English Version

**Aerospace series - Sleeving, heat-shrinkable, for binding,  
insulation and identification - Part 101: Polyolefin sleeving  
- Operating temperatures -55 °C to 135 °C - Product  
standard**

Série aérospatiale - Manchons thermorétractables, de  
jonction, isolement et identification - Partie 101: Gaine  
polyoléfine - Températures d'utilisation -55 °C à 135 °C  
- Norme de produit

Luft- und Raumfahrt - Wärmeschrumpfender Schlauch  
zur Befestigung, Isolierung und Identifizierung - Teil  
101: Polyolefin Schlauch - Temperaturbereich -55 °C  
bis 135 °C - Produktnorm

This European Standard was approved by CEN on 9 January 2017.

CEN 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 CEN 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 CEN 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 STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## **European foreword**

This document (EN 4708-101:2017) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2017, and conflicting national standards shall be withdrawn at the latest by September 2017.

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

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## EN 4708-101:2017 (E)

## 1 Scope

This European Standard specifies the required characteristics for four types of heat-shrinkable polyolefin sleeveings for use in aircraft electrical systems at operating temperatures between – 55 °C and 135 °C.

Type A: **Very flexible, flame retarded, shrink ratio 2:1**

This sleeving has very good flexibility, is flame retarded and will shrink at low temperatures. It is suitable where sensitive components and delicate wiring need protection from excessive heat during shrinking.

Type B: **Flexible, flame retarded, shrink ratio 2:1, 3:1 and 4:1**

This sleeving is flexible and flame retarded. It is suitable for general purposes and is available with high shrink ratios.

Type C: **Flexible, not flame retarded, shrink ratio 2:1 and 3:1**

This sleeving is flexible and not flame retarded and is available in two shrink ratios.

Type D: **Semi-rigid, flame retarded, shrink ratio 2:1**

This sleeving is semi-rigid and flame retarded. It is suitable where strain relief and mechanical support are required

These sleeveings are normally supplied with internal diameters up to 102 mm for shrink ratios of 2:1 and 4:1 and up to 39 mm for shrink ratios of 3:1 and in the following colours for type B, black, brown, red, yellow, green, blue, orange, violet, grey, white and green/yellow. Types A and D are black only. Type C is transparent, is not flame retarded and does not meet the flammability requirements of EN 4708-001.

Sizes or colours other than those specifically listed in this standard may be available. These items shall be considered to comply with this standard if they comply with the property requirements listed in Tables 5, 6 and 7 except for dimensions and mass.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 3909, *Aerospace series — Test fluids and test methods for electrical and optical components and sub-assemblies*

EN 4708-001, *Aerospace series — Sleeving, heat-shrinkable, for binding, insulation and identification — Part 001: Technical specification*

IEC 60684-1:2011, *Specification for flexible insulating sleeving — Part 1: Definitions and general requirements* <sup>1)</sup>

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1) Published by: IEC International Electrotechnical Commission. <http://www.iec.ch/>



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