

# SLOVENSKI STANDARD

## SIST EN 4674-004:2018

01-februar-2018

Nadomešča:

SIST EN 4674-004:2015

---

**Aeronavtika - Električni kabli, namestitve - Samoovojna zaslonska (EMI) zaščitna obojka - 004. del: Odprta obojka - Zunaj območja pod tlakom - EMI-zaščita 10 kA - Temperaturno območje -65 °C do 200 °C - Standard za proizvod**

Aerospace series - Electrical cables, installation - Self-wrapping shielding (EMI) protective sleeve - Part 004: Open sleeve - Outside pressurized area - EMI protection 10 kA - Temperature range - 65 °C to 200 °C - Product standard

Luft- und Raumfahrt - Elektrische Leitungen, Installation - Selbstschließender abschirmender (EMI) Schutzschlauch - Teil 004: Offener Schutzschlauch - Außerhalb Druckkabine - EMI Schutz 10 kA - Temperaturbereich -65 °C bis 200 °C - Produktnorm; Deutsche und Englische Fassung EN 4674-004:2018

Série aérospatiale - Câbles électriques, installation - Gaine de protection blindée (EMI) auto-fermable - Partie 004 : Gaine ouverte - Usage externe - Protection EMI 10 kA - Température d'utilisation □ 65 °C à 200 °C - Norme de produit

**Ta slovenski standard je istoveten z: EN 4674-004:2017**

---

**ICS:**

|           |                                                    |                                          |
|-----------|----------------------------------------------------|------------------------------------------|
| 29.060.20 | Kabli                                              | Cables                                   |
| 49.060    | Letalska in vesoljska električna oprema in sistemi | Aerospace electric equipment and systems |

**SIST EN 4674-004:2018**

**en,fr,de**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 4674-004:2018

<https://standards.iteh.ai/catalog/standards/sist/267688af-3930-4620-8a66-128f6104cc55/sist-en-4674-004-2018>

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 4674-004**

November 2017

ICS 49.060

Supersedes EN 4674-004:2015

English Version

**Aerospace series - Electrical cables, installation - Self-wrapping shielding (EMI) protective sleeve - Part 004: Open sleeve - Outside pressurized area - EMI protection 10 kA - Temperature range - 65 °C to 200 °C - Product standard**

Série aéronautique - Câbles électriques, installation - Gaine de protection blindée (EMI) auto-fermable - Partie 004 : Gaine ouverte - Usage externe - Protection EMI 10 kA - Température d'utilisation : 65 °C à 200 °C - Norme de produit

Luft- und Raumfahrt - Elektrische Leitungen, Installation - Selbstschließender abschirmender (EMI) Schutzschlauch - Teil 004: Offener Schutzschlauch - Außerhalb Druckkabine - EMI Schutz 10 kA - Temperaturbereich -65 °C bis 200 °C - Produktnorm

This European Standard was approved by CEN on 18 September 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.

CEN members are the national standards bodies of 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 United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

| <b>Contents</b>                         | <b>Page</b> |
|-----------------------------------------|-------------|
| <b>European foreword .....</b>          | <b>3</b>    |
| <b>1 Scope.....</b>                     | <b>4</b>    |
| <b>2 Normative references.....</b>      | <b>4</b>    |
| <b>3 Terms and definitions .....</b>    | <b>5</b>    |
| <b>4 Required characteristics .....</b> | <b>5</b>    |
| <b>5 Test methods .....</b>             | <b>9</b>    |
| <b>6 Designation .....</b>              | <b>10</b>   |
| <b>7 Marking.....</b>                   | <b>10</b>   |

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 4674-004:2018  
<https://standards.iteh.ai/catalog/standards/sist/267688af-3930-4620-8a66-128f6104cc55/sist-en-4674-004-2018>

## European foreword

This document (EN 4674-004:2017) 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 May 2018, and conflicting national standards shall be withdrawn at the latest by May 2018.

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

This document supersedes EN 4674-004:2015.

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.

ITEH STANDARD PREVIEW  
(standards.iteh.ai)

SIST EN 4674-004:2018

<https://standards.iteh.ai/catalog/standards/sist/267688af-3930-4620-8a66-128f6104cc55/sist-en-4674-004-2018>

## 1 Scope

This European Standard specifies the characteristics of flexible 10 kA self-wrapping shielding (EMI) protection sleeves, to be installed mainly outside pressurized areas on electrical cables or cable bundles, made from nickel plated copper strands and PPS (polyphenylene sulphide) monofilament.

## 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.

EN 2591-214, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 214: Lightning strike, current and voltage pulse*

EN 2591-307, *Aerospace series — Elements of electrical and optical connection — Test methods — Part 307: Salt mist*

EN 2825, *Aerospace series — Burning behaviour of non metallic materials under the influence of radiating heat and flames — Determination of smoke density*

EN 2826, *Aerospace series — Burning behaviour of non metallic materials under the influence of radiating heat and flames — Determination of gas components in the smoke*

EN 3475-, *Aerospace series — Cables, electrical, aircraft use — Test methods* <sup>1)</sup>

EN 3844-1, *Aerospace series — Flammability of non metallic materials — Part 1: Small burner test, vertical — Determination of the vertical flame propagation*

<https://standards.iteh.ai/catalog/standards/sist/267688af-3930-4620-8a66-128f61b1e534/standard/en-4674-004-2018>

EN 4674-001, *Aerospace series — Electrical cables, installation — Self-wrapping shielding (EMI) protective sleeve — Part 001: Technical specification*

EN 4674-002, *Aerospace series — Electrical cables, installation — Self-wrapping shielding (EMI) protective sleeve — Part 002: General and list of product standard*

EN 6059-, *Aerospace series — Electrical cables, installation — Protection sleeves — Test methods* <sup>1)</sup>

ISO 4892-3, *Plastics — Methods of exposure to laboratory light sources — Part 3: Fluorescent UV lamps* <sup>2)</sup>

IEC 62153-4-3, *Metallic communication cable test methods — Part 4-3: Electromagnetic compatibility (EMC) — Surface transfer impedance — Triaxial method* <sup>3)</sup>

ASTM D4894, *Standard Specification for Polytetrafluoroethylene (PTFE) Granular Molding and Ram Extrusion Materials* <sup>4)</sup>

---

1) All its parts quoted in Table 5.

2) Published by: ISO International Organization for Standardization. <http://www.iso.ch/>

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

4) Published by: ASTM National (US) American Society for Testing and Materials. <http://www.astm.org/>

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 4674-001 apply.

## 4 Required characteristics

### 4.1 Composition

This product is manufactured from PPS (polyphenylene sulphide) monofilaments and nickel-plated copper wire, with or without an internal protective tape.

### 4.2 Dimensions and mass of the sleeve

See Figures 1 and 2, Tables 1 and 2.

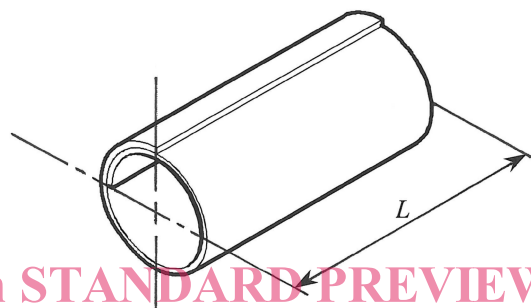
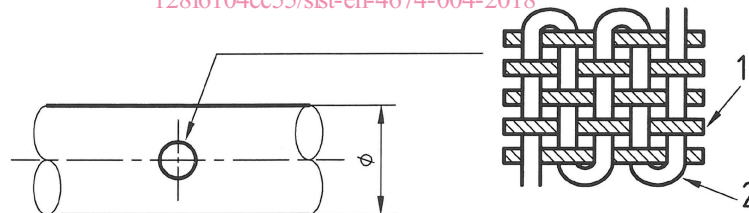


Figure 1

[SIST EN 4674-004:2018](https://standards.iteh.ai/catalog/standards/sist/267688af-3930-4620-8a66-128f6104cc55/sist-en-4674-004-2018)

<https://standards.iteh.ai/catalog/standards/sist/267688af-3930-4620-8a66-128f6104cc55/sist-en-4674-004-2018>



#### Key

- 1 Warp
- 2 Weft

Figure 2

**Table 1 — Dimensions and mass without internal protective tape**

| Size code | Wall thickness<br>mm | Diameters to be protected<br>mm | Mass<br>max.<br>g/m |
|-----------|----------------------|---------------------------------|---------------------|
| 05        | 0,9 ± 0,40           | 0 to 5                          | 57                  |
| 08        |                      | 5 to 8                          | 63                  |
| 13        |                      | 8 to 13                         | 66                  |
| 16        |                      | 13 to 16                        | 75                  |
| 19        |                      | 16 to 19                        | 88                  |
| 25        |                      | 19 to 25                        | 112                 |
| 32        |                      | 25 to 32                        | 148                 |
| 38        |                      | 32 to 38                        | 172                 |
| 45        |                      | 38 to 45                        | 187                 |

**Table 2 — Dimensions and mass with internal protective tape**

| Size code | Wall thickness<br>mm | Diameters to be protected<br>mm | Mass<br>max.<br>g/m |
|-----------|----------------------|---------------------------------|---------------------|
| 05        | 1 ± 0,40             | 0 to 5                          | 59                  |
| 08        |                      | 5 to 8                          | 66                  |
| 13        |                      | 8 to 13                         | 77                  |
| 16        |                      | 13 to 16                        | 82                  |
| 19        |                      | 16 to 19                        | 96                  |
| 25        |                      | 19 to 25                        | 122                 |
| 32        |                      | 25 to 32                        | 160                 |
| 38        |                      | 32 to 38                        | 187                 |
| 45        |                      | 38 to 45                        | 205                 |

### 4.3 Colour, materials and tracer line identification

#### 4.3.1 Colour, tracer line and sleeve identification

See EN 4674-001.

### 4.3.2 Internal mechanical protection tape

The sleeve can be delivered with an internal mechanical protection tape according to ASTM D4894 Type IV, Grade 2 for electrical insulation between the cables and the metallic flat braid; see Table 3.

**Table 3 — Internal mechanical protection tape designation code**

| Tape code | Supply condition                            |
|-----------|---------------------------------------------|
| P         | With internal mechanical protection tape    |
| W         | Without internal mechanical protection tape |

### 4.3.3 Size identification

To identify each sleeve size, no specific tracer shall be specified. The size can be verified by the installation of the sleeve on a mandrel or bundle and the tracer line.

## 4.4 Electrical characteristics for EMI protection

### 4.4.1 Electrical resistance requirement

In accordance with Table 4.

**Table 4 — Electrical resistance requirement**

| Size code | DC Electrical resistance<br>$R_o$ max.<br>mΩ/m<br>After endurance cycles |
|-----------|--------------------------------------------------------------------------|
| 05        | 6                                                                        |
| 08        | 5                                                                        |
| 13        | 5                                                                        |
| 16        | 5                                                                        |
| 19        | 5                                                                        |
| 25        | 5                                                                        |
| 32        | 5                                                                        |
| 38        | 5                                                                        |
| 45        | 5                                                                        |

Resistance measurement shall be done at ambient  $T$  and after endurance testing.