



**SLOVENSKI STANDARD  
SIST EN 4166:2005**

**01-junij-2005**

**BUXca Yý U  
SIST EN 4166:2004**

**Aerospace series - Clips, spring tension, three parts - PTFE bushes**

Aerospace series - Clips, spring tension, three parts - PTFE bushes

Luft- und Raumfahrt - Rohrschellen, federnd, dreiteilig - Hülsen aus PTFE

**(standards.iteh.ai)**

Série aérospatiale - Colliers de fixation a ressort en trois parties - Bagues en PTFE

[SIST EN 4166:2005](#)

<https://standards.iteh.ai/catalog/standards/sist/3f02d0e8-468e-4d50-ab61-52d0/sist-en-4166-2005>

**Ta slovenski standard je istoveten z: EN 4166:2004**

**ICS:**

49.080

Ščep \ žš Á^• [ |b \ ã  
@ñ!æ|ã} ãã c { žš Á^ã

Aerospace fluid systems and components

**SIST EN 4166:2005**

**en**

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

SIST EN 4166:2005

<https://standards.iteh.ai/catalog/standards/sist/3f02d0e8-468e-4d50-ab61-72c23dec62d0/sist-en-4166-2005>

EUROPEAN STANDARD

EN 4166

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2004

ICS 49.080

Supersedes EN 4166:2003

English version

## Aerospace series - Clips, spring tension, three parts - PTFE bushes

Série aérospatiale - Colliers de fixation à ressort en trois parties - Bagues en PTFE

Luft- und Raumfahrt - Rohrschellen, federnd, dreiteilig - Hülsen aus PTFE

This European Standard was approved by CEN on 11 September 2003.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

**iTeh STANDARD PREVIEW**

CEN members are the national standards bodies 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.

[SIST EN 4166:2005](https://standards.iteh.ai/catalog/standards/sist/3f02d0e8-468e-4d50-ab61-72c23dec62d0/sist-en-4166-2005)

<https://standards.iteh.ai/catalog/standards/sist/3f02d0e8-468e-4d50-ab61-72c23dec62d0/sist-en-4166-2005>



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

<b>Contents</b>		<b>Page</b>
	Foreword.....	3
1	Scope .....	4
2	Normative references .....	4
3	Required characteristics .....	4
4	Designation .....	6
5	Marking .....	6
6	Quality assurance .....	6

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

[SIST EN 4166:2005](https://standards.iteh.ai/catalog/standards/sist/3f02d0e8-468e-4d50-ab61-72c23dec62d0/sist-en-4166-2005)

<https://standards.iteh.ai/catalog/standards/sist/3f02d0e8-468e-4d50-ab61-72c23dec62d0/sist-en-4166-2005>

## Foreword

This document (EN 4166:2004) has been prepared by the European Association of Aerospace Manufacturers - Standardization (AECMA-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 AECMA, 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 June 2005, and conflicting national standards shall be withdrawn at the latest by June 2005.

This document supersedes EN 4166:2003.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: 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 the United Kingdom.

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

[SIST EN 4166:2005](https://standards.iteh.ai/catalog/standards/sist/3f02d0e8-468e-4d50-ab61-72c23dec62d0/sist-en-4166-2005)

<https://standards.iteh.ai/catalog/standards/sist/3f02d0e8-468e-4d50-ab61-72c23dec62d0/sist-en-4166-2005>

**EN 4166:2004 (E)****1 Scope**

This standard specifies the characteristics of PTFE bushes for three part clips, spring tension for applications at a maximum temperature of 260 °C, for aerospace applications.

They shall be assembled with parts from EN 4167 and EN 4168.

**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.

EN 2424,	<i>Aerospace series — Marking of aerospace products</i>
EN 4167,	<i>Aerospace series — Clips, spring tension, three parts — Inner clips in heat resisting steel FE-PA2601 (A286)</i>
EN 4168,	<i>Aerospace series — Clips, spring tension, three parts — Outer clips in heat resisting steel FE-PA2601 (A286)</i>
EN 9100,	<i>Aerospace series - Quality management systems - Requirements (based on ISO 9001:2000) and Quality systems - Model for quality assurance in design, development, production, installation and servicing (based on ISO 9001:1994)</i>
AMS 3659C,	<i>Polytetrafluoroethylene Extrusions Premium Strength, Sintered and Stress-Relieved <sup>1)</sup></i>
AMS 3660C,	<i>Polytetrafluoroethylene (PTFE) Moldings General Purpose Grade, as Sintered <sup>1)</sup></i>

**3 Required characteristics****3.1 Configuration – Dimensions – Tolerances – Masses**

See Figure 1 and Table 1.

Dimensions and tolerances are in millimetres.

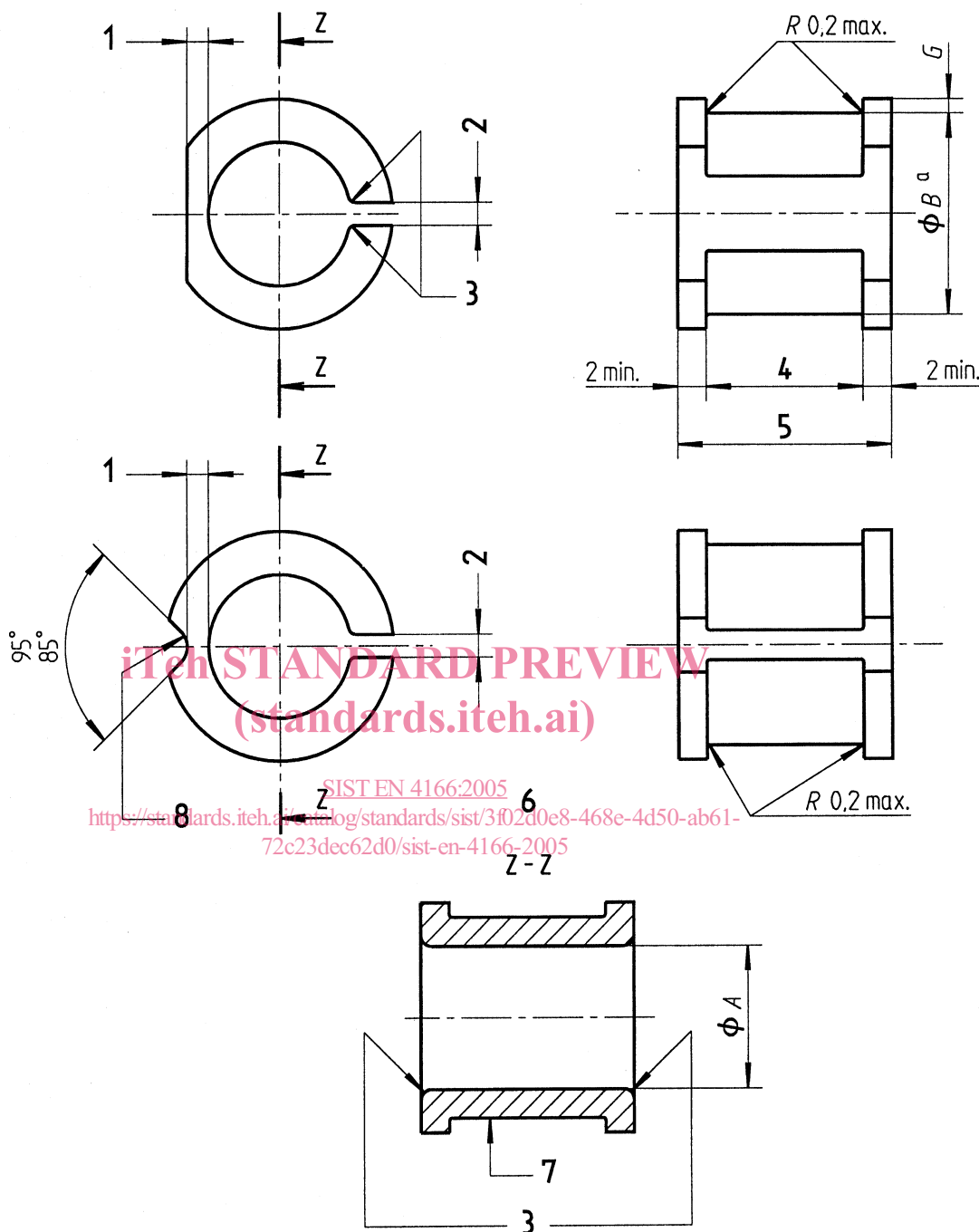
**3.2 Materials**

PTFE according to AMS 3659 for tube diameters  $\leq 12$  and AMS 3660 for tube diameters  $> 12$

---

1) Published by: Society of Automotive Engineers, inc. (SAE), 400 Commonwealth Drive, Warrendale, PA 15096-0001, USA

6,3

**Key**

- |              |   |   |                       |
|--------------|---|---|-----------------------|
| 1            | 1,3 to 1,8  | 4 | 10,8 to 11,4          |
| 2            | 1,2 to 1,8, dimensions apply when cushion is assembled on a test bar (or tube) of diameter $A \pm 0,08$ . | 5 | 15,4 to 16,4          |
| 3            | break sharp edges 1,0 max.  | 6 | optimal configuration |
| <sup>a</sup> | dimension apply when cushion is assembled on a test bar (or tube) of diameter $A \pm 0,08$ .              | 7 | marking               |
|              |   | 8 | $R = 1,3$ to 1,8      |

**Figure 1**

Table 1

Diameter code	<i>A</i>	<i>B</i> ± 0,2	<i>G</i> + 0,1 - 0,3	Mass kg/1 000 parts ≈
004	4	8	0,8	2,5
006	6	10		3,6
008	8	12		4,6
010	10	14	1	4,9
012	12	16		5,7
014	14	18		6,9
016	16	20		7,6
018	18	22		8,6
020	20	24		9,4
025	25	29		12
032	32	36		14,9

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

### 4 Designation

EXAMPLE

SIST EN 4166:2005  
<https://standards.iteh.ai/catalog/standards/sist/bf02d0e8-468e-4d50-ab61-72c23dec62d0/sist-en-4166-2005>

Description block

Identity block

**BUSH**

**EN4166-016**

Number of this standard \_\_\_\_\_

Diameter code (see Table 1) \_\_\_\_\_

NOTE If necessary, the code I9005 shall be placed between the description block and the identity block.

### 5 Marking

EN 2424, style A, as indicated on Figure 1.

### 6 Quality assurance

The manufacturer's quality systems shall conform to EN 9100.