



# SLOVENSKI STANDARD

## SIST EN 4692:2017

01-december-2017

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### Aeronavtika - Zglobna ročica z vgrajenim sornikom - Blokirni zatič

Aerospace series - Tie Rod with integrated bolts -Locking clip

Luft- und Raumfahrt - Zug-Druck Stange mit integriertem Bolzen - Verriegelungsklipp

Série aérospatiale - Bielle avec axes intégrés - Clip de verrouillage

Ta slovenski standard je istoveten z: **EN 4692:2017**

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#### **ICS:**

49.035

Sestavni deli za letalsko in  
vesoljsko gradnjo

Components for aerospace  
construction

**SIST EN 4692:2017**

**en,fr,de**

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EUROPEAN STANDARD

EN 4692

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2017

ICS 49.035

English Version

## Aerospace series - Tie Rod with integrated bolts -Locking clip

Série aérospatiale - Bielle avec axes intégrés - Clip de verrouillage

Luft- und Raumfahrt - Zug-Druck Stange mit integriertem Bolzen - Verriegelungsklipp

This European Standard was approved by CEN on 25 June 2016.

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.

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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 4692:2017) 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 April 2018, and conflicting national standards shall be withdrawn at the latest by April 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.

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.

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## Introduction

Aerospace and Defence Standardization (ASD-STAN) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent:

- USA: US 8371767,
- China: CN 10104431,
- Japan: JP 4885140,
- Russia: RU 2389914,
- South Africa: ZA 2007/03913,
- Canada: 2584387,
- South Korea: 7011559.

ASD-STAN takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has assured ASD-STAN that he/she is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with ASD-STAN. Information may be obtained from:

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Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights other than those identified above. ASD-STAN shall not be held responsible for identifying any or all such patent rights.

## 1 Scope

This standard shows the locking clips for the construction kit of rod assemblies for aerospace applications with two adjustable ends with integrated bolts for interior and sub structure in the temperature range  $-55\text{ °C}$  to  $85\text{ °C}$  (EN 4691-2).

## 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.

DIN 65038-2, *Aerospace — Bars of steel, nickel alloys and cobalt alloys for aircraft — Technical specification, sampling*

EN 2424, *Aerospace series — Marking of aerospace products*

EN 4528, *Aerospace series — Steel FE-PA3903 (X10CrNi18-8) — Cold rolled — Strip for springs —  $a \leq 3\text{ mm}$  —  $1\,250\text{ MPa} \leq R_m \leq 1\,640\text{ MPa}$*

EN 4691-1, *Aerospace series — Tie rod with integrated bolts — Part 1: Technical specification*

EN 4691-2, *Aerospace series — Tie rod with integrated bolts — Part 2: Overview construction kit*

ISO 2768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

ISO 2768-2, *General tolerances — Part 2: Geometrical tolerances for features without individual tolerance indications*

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ISO 8075, *Aerospace — Surface treatment of hardenable stainless steel parts*

WL 1.4548 (all parts), *Aerospace — Precipitation-hardening stainless chromium-nickel-copper steel with approx. 0,05C-16Cr-4Cu-4Ni*

## 3 Requirements

### 3.1 Configuration, dimensions, tolerances and masses

#### 3.1.1 Configuration

The configuration shall be in accordance with Figure 1, Figure 2, Figure 3, Figure 4 and Figure 5.

#### 3.1.2 Dimensions, tolerances and masses

Dimensions are in millimetres, tolerances and masses in accordance to Table 2. General tolerances shall be in accordance to ISO 2768-mK.

## 4 Materials

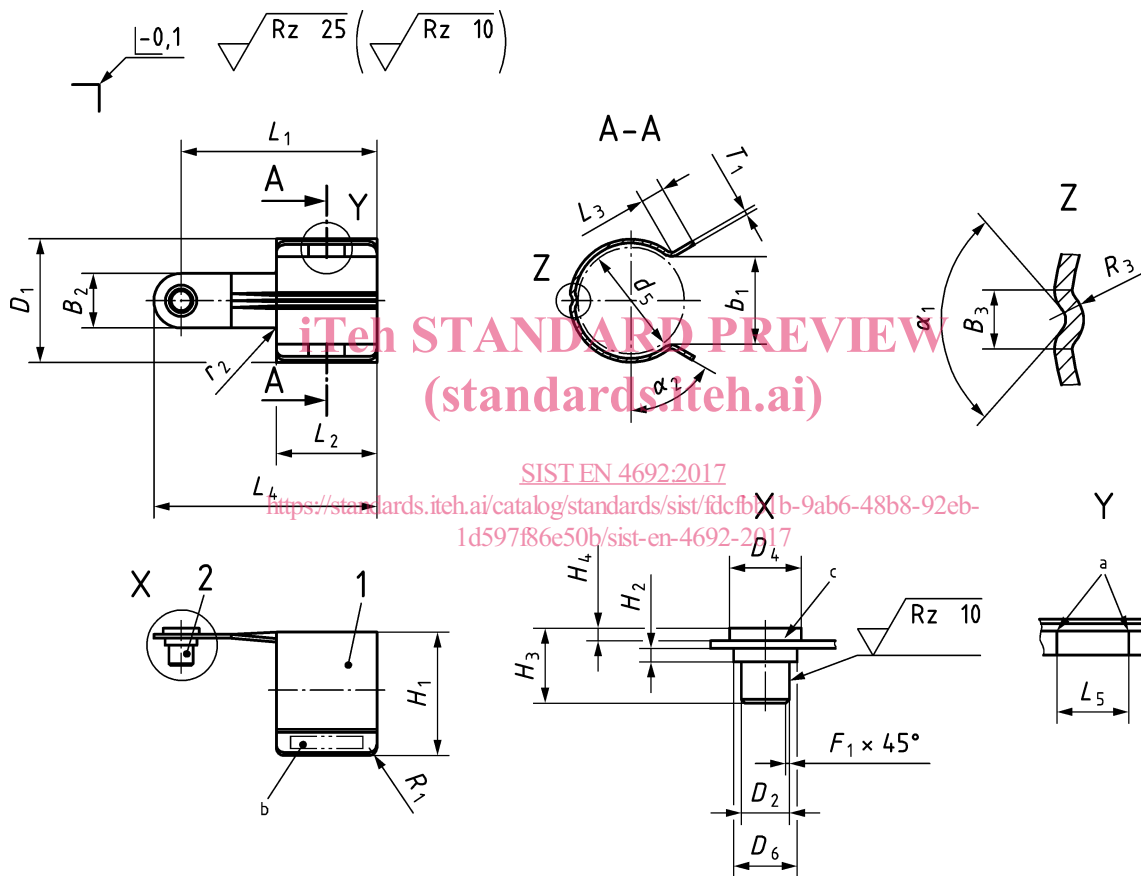
See Table 1.

Table 1 — Material

Position	Description	Material	Surface treatment
1	Clip	Stainless steel strip 1.4310 according to EN 4528	Passivated according to ISO 8075
2	Pin	Stainless steel WL 1.4548.4 according to DIN 65038-2	

## 5 Locking clips

See Figure 1 to Figure 5.

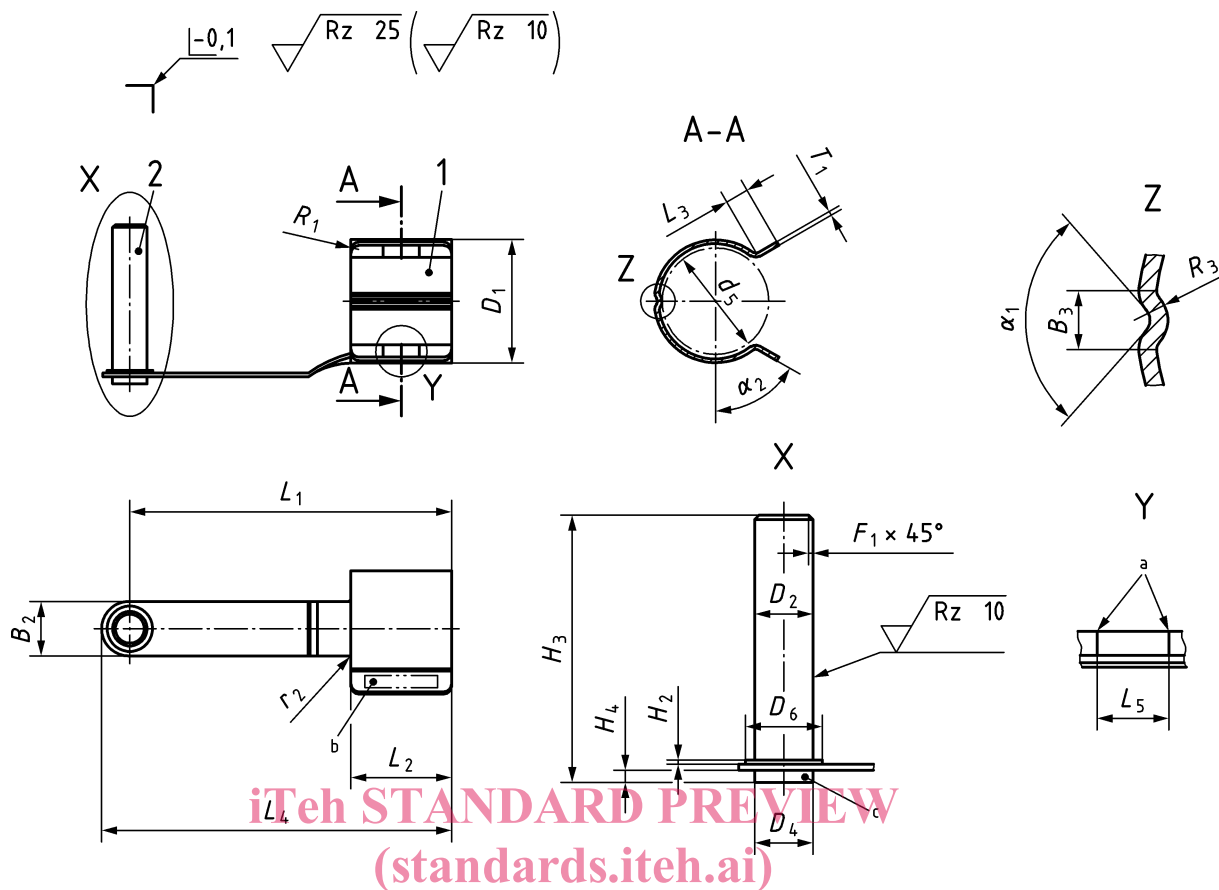


### Key

- 1 Clip
- 2 Pin
- a Marking for zero Position
- b Marking, see Clause 6
- c Pin riveted

Figure 1 — Locking clip (locking clip code 01 and 02)



**Key**

- 1 Clip
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**Figure 2 — Locking clip (locking clip code 03R)**