



# SLOVENSKI STANDARD

## SIST EN 3777:2012

01-januar-2012

---

### Aeronavtika - Zatiči s sistemom za hitro odpiranje z enojnim ali dvojnimi delovanjem - Tehnična specifikacija

Aerospace series - Pins, quick release, single and double acting - Technical specification

Luft- und Raumfahrt - Kugelsperrbolzen mit Zugauslösung und Zug- Druckauslösung - Technische Lieferbedingungen

Série aérospatiale - Broches à démontage rapide, simple et double action - Spécification technique

iTeh STANDARD PREVIEW

(standards.iteh.ai)

SIST EN 3777:2012

Ta slovenski standard je istoveten z: EN 3777:2010

<https://standards.iteh.ai/catalog/standards/sist/8dd7c4f2-41ec-413a-aecb-6d0466170e58/sist-en-3777-2012>

---

#### **ICS:**

49.030.40      Zatiči, žablji      Pins, nails

**SIST EN 3777:2012**

**en,de**

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

[SIST EN 3777:2012](#)

<https://standards.iteh.ai/catalog/standards/sist/8dd7c4f2-41ec-413a-aecb-0d04b6f70e58/sist-en-3777-2012>

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 3777**

October 2010

ICS 49.030.20

English Version

**Aerospace series - Pins, quick release, single and double acting  
- Technical specification**

Série aérospatiale - Broches à démontage rapide, simple et  
double action - Spécification technique

Luft- und Raumfahrt - Kugelsperrbolzen mit Zugauslösung  
und Zug- Druckauslösung - Technische Lieferbedingungen

This European Standard was approved by CEN on 30 July 2010.

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 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 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

SIST EN 3777:2012

<https://standards.iteh.ai/catalog/standards/sist/8dd7c4f2-41ec-413a-aecb-0d04b6f70e58/sist-en-3777-2012>



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

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

## Contents

Page

Foreword.....	3
1 Scope .....	4
2 Normative references .....	4
3 Terms and definitions .....	5
4 Classification.....	5
4.1 General.....	5
4.2 Single acting pin .....	5
4.3 Double acting pin.....	5
5 Requirements .....	5
6 Quality assurance .....	9
6.1 Approval of the manufacturer .....	9
6.2 Product qualification .....	10
7 Acceptance conditions .....	10
7.1 Inspection and tests .....	10
7.2 Rejection and re-test .....	10
8 Certificate of conformity.....	10
9 Filing of documents.....	10

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

SIST EN 3777:2012

<https://standards.iteh.ai/catalog/standards/sist/8dd7c4f2-41ec-413a-aecb-0d04b6f70e58/sist-en-3777-2012>

## Foreword

This document (EN 3777:2010) 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 2011, and conflicting national standards shall be withdrawn at the latest by April 2011.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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

[SIST EN 3777:2012](https://standards.iteh.ai/catalog/standards/sist/8dd7c4f2-41ec-413a-aecb-0d04b6f70e58/sist-en-3777-2012)

<https://standards.iteh.ai/catalog/standards/sist/8dd7c4f2-41ec-413a-aecb-0d04b6f70e58/sist-en-3777-2012>

**EN 3777:2010 (E)****1 Scope**

This standard specifies the characteristics, qualification and acceptance requirements for quick release pins, single and double acting for aerospace applications.

It is applicable whenever referenced.

**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 2002-001, *Aerospace series — Metallic materials — Test methods — Part 001: Tensile testing at ambient temperature*

EN 2002-7, *Aerospace series — Metallic materials — Test methods — Part 7: Hardness test*<sup>1)</sup>

EN 3238, *Aerospace series — Metallic materials — Test method — Shear test for wires and rivets*

EN 9100, *Quality Management Systems — Requirements for Aviation, Space and Defense Organizations*

EN 9133, *Aerospace series — Quality management systems — Qualification procedure for aerospace standard parts*

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

NASM 1312, *Fastener test methods FSC 53GP*<sup>2)</sup> [SIST EN 3777:2012](https://standards.itih.ai/catalog/standards/sist/8dd7c4f2-41ec-413a-accb-0d04b6f70e58/sist-en-3777-2012)

MIL-PRF-23827C, *Grease, aircraft and instrument, gear and actuator screw, NATO code number G-354*<sup>3)</sup>

MIL-STD-810G, *Environmental engineering considerations and laboratory tests*<sup>3)</sup>

---

1) Published as ASD-STAN Prestandard at the date of publication of this standard by Aerospace and Defence Industries Association of Europe-Standardization (ASD-STAN) ([www.asd-stan.org](http://www.asd-stan.org)).

2) Published by: Aerospace Industries Association/ National Aerospace Standards (AIA/NAS) ([www.aia.aerospace.org](http://www.aia.aerospace.org)).

3) Published by: Department of Defense (DoD), <http://www.defenselink.mil/>.

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 3.1

**batch**

**lot**

**inspection batch**

**inspection lot**

quick release pins of the same type, size, material and surface protection manufactured under the same conditions and presented for inspection of the same size

#### 3.2

**surface discontinuities**

##### 3.2.1

**crack**

break in the material which may extend in all directions and be intercrystalline or transcrystalline in character

##### 3.2.2

**pit**

void, hole in the surface as caused, for example, by corrosion

##### 3.2.3

**score, scratch**

open surface defect

##### 3.2.4

**seam**

unwelded fold which appears as an open defect in the material

<https://standards.iteh.ai/catalog/standards/sist/8dd7c4f2-41ec-413a-accb-0d04b6f70e58/sist-en-3777-2012>

### 4 Classification

#### 4.1 General

The quick release pins, single or double acting, can be manufactured with handles of different configuration.

#### 4.2 Single acting pin

The release is obtained only by an axial push applied to the actuating button.

#### 4.3 Double acting pin

The release is obtained only when the spindle has been moved to a release position by an axial push or pull on the actuating button or handle.

### 5 Requirements

See Table 1.

Table 1

Clause	Characteristics	Requirements	Inspection and test method	Q <sup>a</sup>	A <sup>b</sup>
5.1	<b>Materials</b>	In accordance with the product standard or definition document.	Chemical analysis or certificate of conformity issued by the manufacturer of the semi-finished product	X	X
5.2	<b>Dimensions and tolerances</b>	In accordance with the product standard or definition document.	Standard gauging	X	X
5.3	<b>Masses</b>	In accordance with the product standard or definition document.	Suitable methods	X	X
5.4	<b>Marking</b>	In accordance with the product standard or definition document. It shall be legible and shall not adversely affect the material or the functioning of the pins.	Visual examination	X	X
5.5	<b>Surface appearance</b>	Pins shall be free of surface discontinuities liable to have an adverse effect on their characteristics and endurance. See 3.2 for definitions.	Suitable measuring instruments	X	X
5.6	<b>Surface coating</b>				
5.6.1	<b>Presence</b>	Applied at the locations specified in the product standard or definition document.	Visual examination	X	X
5.6.2	<b>Type<sup>c</sup></b>	In accordance with the definition document.	Visual examination or inspection by chemical reagent in case of doubt (method agreed upon between the manufacturer and the user)	X	X
5.6.3	<b>Thickness</b>	In accordance with the definition document.	Device for measuring the thickness of surface coatings. In case of doubt, inspect defective nuts under low magnification after sectioning.	X	X
5.7	<b>Heat treatment</b>	In accordance with the product standard or definition document	Standard gauging	X	X
5.8	<b>Hardness</b>	In accordance with the product standard or definition document. Shank and balls are to be checked, specifically.	Test according to EN 2002-7.	X	
5.9	<b>Corrosion</b>	Pins shall be subjected to the corrosion test.  The same pins shall be then tested for conformance to the release actuating force values specified in Table 2.	According to the NASM 1312 test 1 salt-spray.  Upon completion of the test, the pins shall be tested as defined in 5.11 and 5.12.	X	

continued



Table 1 (continued)

Clause	Characteristics	Requirements	Inspection and test method	Q <sup>a</sup>	A <sup>b</sup>
5.10	Sand and dust	Pins shall be subjected to the sand and dust test.  The same pins shall then be tested for conformance to the release actuating force values specified in Table 2.	According to the MIL-STD-810 method 510.1.  Upon completion of the test, the pins shall be tested as defined in 5.11 and 5.12.	X	
5.11	Release mechanism	The release mechanism shall automatically return and remain in the locked position.	Mount the pin in a fixture conforming to the Figure 3. The release mechanism actuating force values shall be within the range specified in Table 2.  Upon completion of the test, the pins shall be tested as defined in 5.12.	X	X
5.12	Locking element	When the pin release button is depressed to a release position, the pin shall be capable of being pulled out from the bushing of fixture with a force that is twice the maximum release mechanism force in Table 2.  The locking device of double acting quick release pins shall withstand the minimum tensile values specified in Table 2 without failure.	Mount the pin in a fixture conforming to the Figure 2. When the pin release button is depressed to the release position, the pin shall be capable of being pulled from the bushing.	X	X
5.13	Attaching link, ring, handle	The complete attachment shall remain intact when subjected to the tensile strength test. Deformation of the link, ring or flag attachment shall not constitute failure.  The release mechanism actuating force shall again be measured for conformance to the requirements of Table 2 (see 5.11).	Mount the pin in accordance with the Figure 3. Apply a force of 44 N between the link or ring on the handle and the release mechanism. When a flag is attached the same force shall be applied between the flag and the release link or ring.  All parts shall show no evidence of failure.	X	
5.14	Ball retention	Ball shall be retained in the shank when subjected to the minimum push out values specified in Table 2.	The spindle and one ball shall be removed from the test sample. The sample shall be placed on a "V" block with the remaining ball in the staked hole placed downwards in a position not allowing contact with any portions of the "V" block. A mandrel connected to a direct-reading load indicator shall be inserted through the empty top hole and the load specified in Table 2 applied against the ball in the bottom staked hole.	X	

continued