SLOVENSKI STANDARD
oSIST prEN 6051:2023

01-april-2023

Aeronavtika - Pritrdilni obroči, strižni tip, iz aluminijeve zlitine 3003, prevleke - Palčne mere

Aerospace series - Collar, swage locking, shear type, in aluminium alloy 3003, conversion coating - Inch series

Luft- und Raumfahrt - Schließring für Quetschverriegelung, für Scherbeanspruchung, aus Aluminiumlegierung 3003, Schmierfilm behandelt - Zoll-Reihe

Série aérospatiale - Bague à sertir, type cisaillement, en alliage d'aluminium 3003, revêtement de conversion - Série en inches

Ta slovenski standard je istoveten z: **prEN 6051**

ICS:

49.030.99	Drugi vezni elementi	Other fasteners

oSIST prEN 6051:2023 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 6051

February 2023

ICS 49.030.99

English Version

Aerospace series - Collar, swage locking, shear type, in aluminium alloy 3003, conversion coating - Inch series

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee ASD-STAN.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (prEN 6051:2023) 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 document has received the approval of the National Associations and the Official Services of the member countries of ASD-STAN, prior to its presentation to CEN.

This document is currently submitted to the CEN Enquiry.

1 Scope

This document specifies the characteristics of a collar, swage locking, shear type, in aluminium alloy 3003, with a maximum operating temperature of 80 °C for aerospace application. This document is applicable in combination with EN 6050, EN 6100 or EN 6120.

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 2424, *Aerospace series — Marking of aerospace products*

EN 6050,[1] *Aerospace series — Pin, close tolerance, swage locking, 100° countersunk reduced head, shear type, in aluminium alloy 7050, chemical film — Inch series*

EN 6052, *Aerospace series — Rivet-collar-system, aluminium alloy, shear type, inch series — Technical Specification*

EN 6100,[1] *Aerospace series — Pins, close tolerance, swage locking, 100° countersunk head, shear type, in aluminium alloy 7050, chemical film — Inch series*

EN 6120,[1] *Aerospace series — Pins, close tolerance, swage locking, protruding head, shear type, in aluminium alloy 7050, chemical film — Inch series*

MIL-C-5541,[2] *Chemical Conversion Coatings on Aluminium and Aluminium Alloys*

MIL-L-87132,[2] *Lubricant, CETYL Alcohol, 1-Hexadecanol, Application to Fasteners*

QQ-A-430,[3] *Aluminium Alloy Rod and Wire; for Rivets and Cold Heading*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

[1] Published as ASD-STAN Standard at the date of publication of this standard by AeroSpace and Defence Industries Association of Europe — Standardization (ASD-STAN), (www.asd-stan.org).

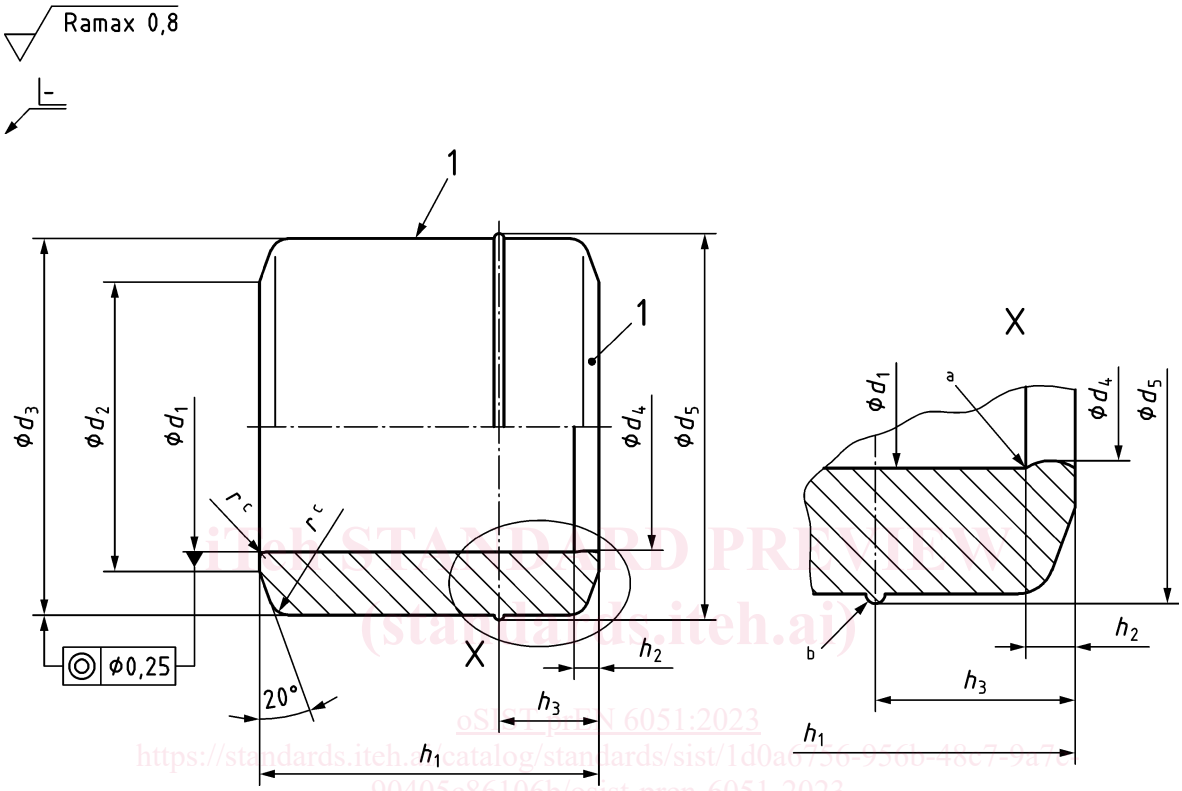
[2] Published by: Department of Defense (DoD), the Pentagon, Washington, D.C., 20301, USA.

[3] Published by: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402, USA.

4 Requirements

4.1 Configuration, dimensions, tolerances and mass

The configuration, dimensions, tolerances and mass shall conform to Figure 1 and Table 1. Dimensions and tolerances are expressed in millimetres. Values apply before lubrication.



Key

1 marking (see Clause 6)

a punch-out burr permitted within limits of ⌀ d_4 and h_2 (one end only)

b permissible circular burr or offset ⌀ d_5 max. (one end only)

c 1,0 max. or underfill

Figure 1 — Configuration, dimensions and tolerances

Table 1 — Dimensions, tolerances and mass

Diameter code	d_1 ±0,05	d_2 max.	d_3 min.	d_3 max.	d_4 min.	d_5 max.	h_1 ±0,25	h_2 max.	h_3 Ref.	Mass kg/1 000 pieces ≈
040	4,14	4,78	6,17	6,27	4,09	6,38	5,61	0,41	1,65	0,245

4.2 Material and surface treatment

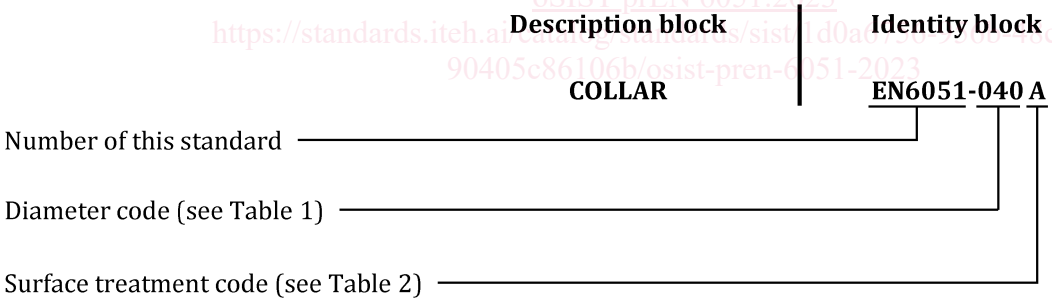
Shall be according to Table 2.

Table 2 — Material and surface treatment

Code	Material	Heat treatment	Hardness	Surface treatment	Lubricant
A	Aluminium alloy 3003 in accordance with chemical composition of QQ-A-430	H12 to H17 condition	50 Rockwell to 62 Rockwell 15 t (35 HV to 50 HV 15 kgf)	Chemical film per MIL-C-5541 class 1A (gold chromate)	Cetyl alcohol lubrication per MIL-L-87132, grade B

5 Designation

EXAMPLE



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

Example of part numbering in accordance with ATA iSpec 2200 (15 character rule).

6 Marking

Shall be according to EN 2424, style F, depressed 0,25 mm max.

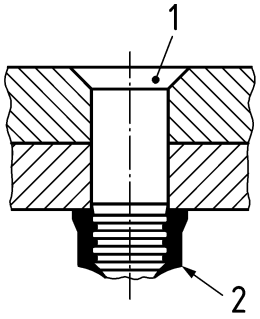
Marking position at manufacturer's discretion.

7 Technical specification

Shall be according to EN 6052.

8 Example of installation

Shall be according to Figure 2.



Key

1 pin EN 6050, EN 6100 or EN 6120

2 collar EN 6051 (installed condition)

Figure 2 — Example of installation

9 Quality Management System

Product Standard: The manufacturer's operations shall be an approved production organization for aerospace products and shall demonstrate that it has implemented and is able to maintain a quality management system (e.g. according to EN 9100 or an equivalent aerospace accepted and established quality management system).

Specification: The qualification procedure for aerospace standard products (e.g. according to EN 9133 or an equivalent aerospace accepted and established qualification procedure) shall be used and documented according to the specified tests if not otherwise agreed between customer and supplier.

Bibliography

[1] EN 9100, *Quality Management Systems — Requirements for Aviation, Space and Defence Organizations*

[2] EN 9133, *Aerospace series — Quality Management Systems — Qualification Procedure for Aerospace Standard Products*

[3] ANSI B32.100, *Preferred Metric Sizes for Flat, Round, Square, Rectangle, and Hexagon Metal Products*

[4] ATA iSpec 2200, ATA Standard Numbering System