SLOVENSKI STANDARD
SIST EN 3637:2023

01-september-2023

Nadomešča:
SIST EN 3637:2008

Aeronavtika - Matice, samozapiralne, biheksagonalne (dvojno nižane), iz toplotnoodporne zlitine na nikljevi osnovi - NI-P101HT (Waspaloy), posrebrene - Klasifikacija: 1210 MPa/730 °C

Aerospace series - Nut, self-locking, bi-hexagonal (double reduced), in heat resisting nickel base alloy - NI-P101HT (Waspaloy), silver plated, Classification: 1 210 MPa/730 °C

Luft- und Raumfahrt - Zwölfkantmutter, selbstsichernd (Doppelt reduziert), aus hochwarmfester Nickelbasislegierung - NI-P101HT (Waspaloy), versilbert, Klasse: 1 210 MPa/730 °C

Série aérospatiale - Écrou bihexagonal à freinage interne (double réduit), en alliage résistant à chaud base nickel NI-P101HT (Waspaloy), argenté - Classification : 1 210 MPa/730 °C

Ta slovenski standard je istoveten z: **EN 3637:2023**

ICS:

49.030.30 Matice Nuts

SIST EN 3637:2023 **en,fr,de**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 3637

July 2023

ICS 49.030.30

Supersedes EN 3637:2008

English Version

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This European Standard was approved by CEN on 12 June 2023.

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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.

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

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European foreword

This document (EN 3637:2023) 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 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of an identical text or by endorsement, at the latest by January 2024, and conflicting national standards shall be withdrawn at the latest by January 2024.

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.

This document supersedes EN 3637:2008.

EN 3637:2023 includes the following significant technical changes with respect to EN 3637:2008:

— Clause 3 „Terms and definitions“ added;

— Key and footnotes to Figure 1 updated;

— Clause 7 modified;

— Bibliography updated;

— document editorially revised.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

1 Scope

This document specifies the dimensions of self-locking, silver-coated bi-hexagonal nuts with MJ-thread in heat resisting nickel base alloy NI-P101HT for aerospace applications.

Maximum test temperature of the material 730 °C.

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 2786, *Aerospace series — Electrolytic silver plating of fasteners*

EN 2959, *Aerospace series — Heat resisting alloy NI-PH1302 (NiCr20Co13Mo4Ti3Al) — Solution treated and cold worked — Bar for forged fasteners — 3 mm ≤ D ≤ 30 mm*

EN 3005, *Aerospace series — Nuts, self-locking, MJ threads, in heat resisting nickel base alloy NI-PH1302 (Waspaloy), silver plated or uncoated — Classification: 1 210 MPa (at ambient temperature)/730 °C — Technical specification*

EN 3220, *Aerospace series — Heat resisting nickel base alloy (Ni-P101HT) — Cold worked and softened — Bar and wire for continuous forging or extrusion for fasteners — 3 mm ≤ D ≤ 30 mm*

ISO 4095, *Aerospace — Bihexagonal drives — Wrenching configuration — Metric series*

ISO 5855-1, *Aerospace — MJ threads — Part 1: General requirements*

ISO 5855-2, *Aerospace — MJ threads — Part 2: Limit dimensions for bolts and nuts*

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/

4 Requirements

4.1 Configuration – dimensions – tolerances

Configuration shall be in accordance with Figure 1; dimensions, tolerances and masses shall conform with Figure 1 and Table 1. Details of form, not stated, are at the manufacturer's option. Dimensions are after coating.

4.2 Material

Material shall be heat resisting nickel base alloy NI-P101HT to EN 2959 or EN 3220.

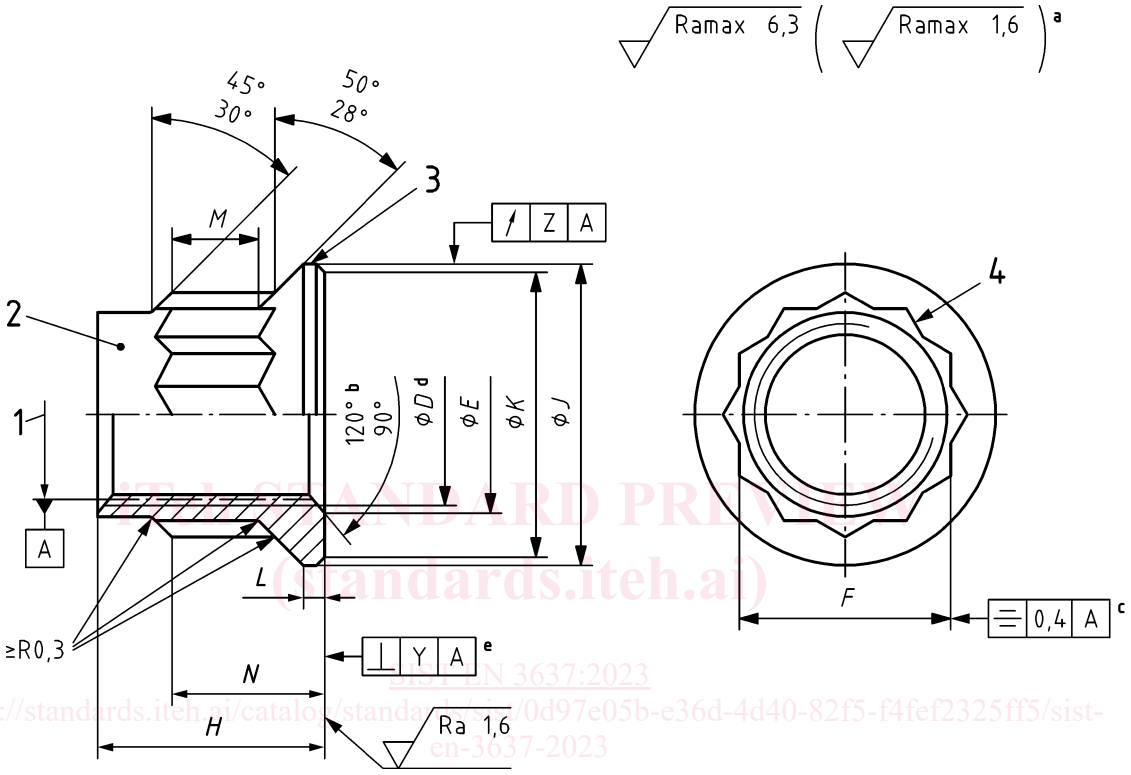
4.3 Surface treatment

Silver coat shall be according to EN 2786, coating thickness 5 µm to 15 µm.

On nuts MJ6 and larger, the coating thickness shall be not less than 5 µm, measured at the pitch diameter.

MJ5 nuts shall show complete coating coverage on the threads.

Remove sharp edges 0,1 mm to 0,4 mm.



Key

1 Pitch diameter

2 Self-locking feature at manufacturers option tool marks acceptable

3 Marking on the flange

4 Bi-hexagonal wrenching configuration ISO 4095 on length M

[a] These values are to be applied before silver coating. Thread's surface will be achieved by normal methods of manufacture.

[b] All forms of entry (radius or chamfer) optional within these limiting dimensions.

[c] 6 places

[d] Thread in conformity with ISO 5855-1 and ISO 5855-2. In self-locking zone the tolerances apply before deformation of self locking.

[e] Bearing surface may be flat or concave, but shall not be convex.

Figure 1 — Configuration

Table 1 — Dimensions and masses

Dimensions in millimetres

Code	Thread Designation	*E* min	*E* max	*F*[a]	*H* max	*J* max	*K* min	*L* min	*M*[b] min	*N*	*y*	*z*	Mass kg/1 000 parts ≈
050	MJ5×0,8–4H6H	5,2	5,8	7	7	9,1	8,3	1,2	2	4,9	0,1	0,2	1,63
060	MJ6×1,0–4H5H	6,3	7,1	8	8,1	10,6	9,8	1,2	2,3	5,5	0,1	0,2	2,33
070	MJ7×1,0–4H5H	7,3	8,1	9	9,1	12,1	11,3	1,2	2,6	6,1	0,1	0,2	3,19
080	MJ8×1,0–4H5H	8,3	9,1	10	10,4	13,6	12,8	1,2	2,8	6,9	0,1	0,2	4,34
100	MJ10×1,25–4H5H	10,3	11,1	12	13	16,8	15,8	1,2	3,1	8,8	0,13	0,3	7,69
120	MJ12×1,25–4H5H	12,3	13,1	14	15	19,9	18,8	1,4	3,5	10,1	0,13	0,3	14,58
140	MJ14×1,5–4H5H	14,4	15,2	17	17,5	23	21,9	1,7	4	12,6	0,13	0,3	19,79

[a] Bi-hexagonal configuration in conformity with ISO 4095 over length “M”.

[b] Wrench pad engagement.

5 Designation

EXAMPLE

Description block	Identity block
NUT	EN 3637 - 050

Number of EN Standard

Thread code (see Table 1)

If necessary, the design code I9005 may be introduced between the description block and the identity block.

6 Marking

Marking shall be in accordance with EN 2424, Class A.

7 Technical specification

The technical specification shall be according to EN 3005, except for clauses:

— Approval of manufacturers: The manufacturer's operations shall be an approved production organisation 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).

— Qualification of externally threaded fasteners: 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

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

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