SLOVENSKI STANDARD
SIST EN 3434:2023

01-marec-2023

Aeronavtika - Matice, šestrobe, z zarezo/kronske, samozaporne, iz jekla, kadmirane, mazane z MoS2 - Klasifikacija: 900 MPa (pri okoljski temperaturi)/235 °C

Aerospace series - Nuts, hexagon, slotted/castellated, self-locking, in steel, cadmium plated, MoS2 lubricated - Classification: 900 MPa (at ambient temperature)/235 °C

Luft- und Raumfahrt - Sechskant-Kronenmuttern, selbstsichernd, aus Stahl, verkadmet, MoS2-geschmiert - Klasse: 900 MPa (bei Raumtemperatur)/235 °C

Série aérospatiale - Écrous hexagonaux à créneaux, à freinage interne, en acier, cadmiés, lubrifiés au MoS2 - Classification : 900 MPa (à température ambiante)/235 °C

Ta slovenski standard je istoveten z: **EN 3434:2022**

ICS:

49.025.10	Jekla	Steels
49.030.30	Matice	Nuts

SIST EN 3434:2023 **en,fr,de**

EUROPEAN STANDARD

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EN 3434

December 2022

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English Version

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This European Standard was approved by CEN on 26 March 2021.

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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

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

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European foreword

This document (EN 3434:2022) 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of an identical text or by endorsement, at the latest by June 2023, and conflicting national standards shall be withdrawn at the latest by June 2023.

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.

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 organisations 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 characteristics of self-locking hexagonal slotted/castellated nuts, in steel, cadmium plated, MoS_2 lubricated, for aerospace applications.

Classification: 900 MPa[1]/235 °C[2].

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 2133, *Aerospace series — Cadmium plating of steels with specified tensile strength ≤1 450 MPa, copper, copper alloys and nickel alloys*

EN 2367, *Aerospace series — Split pins in steel EN 2573*

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

EN 2491, *Aerospace series — Molybdenum disulphide dry lubricants — Coating methods*

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

ISO 5858, *Aerospace — Nuts, self-locking, with maximum operating temperature less than or equal to 425 degrees C — Procurement specification*

ISO 8788, *Aerospace — Nuts, metric — Tolerances of form and position*

TR 3791, *Materials for self-locking nuts, threaded inserts and screw thread inserts of temperature classes ≤425 °C*[3]

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological 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] Corresponds to the minimum tensile stress that the nut is able to withstand at ambient temperature without breaking or cracking when tested with a bolt of a higher strength class.

[2] Maximum temperature that the nut is able to withstand, without permanent alteration to its original characteristics, after ambient temperature has been restored. The maximum temperature is conditioned by the cadmium plating.

[3] Published as ASD-STAN Technical Report at the date of publication of this standard by AeroSpace and Defence Industries Association of Europe — Standardization (ASD-STAN) (http://www.asd-stan.org/).

4 Required characteristics

4.1 Configuration — Dimensions — Masses

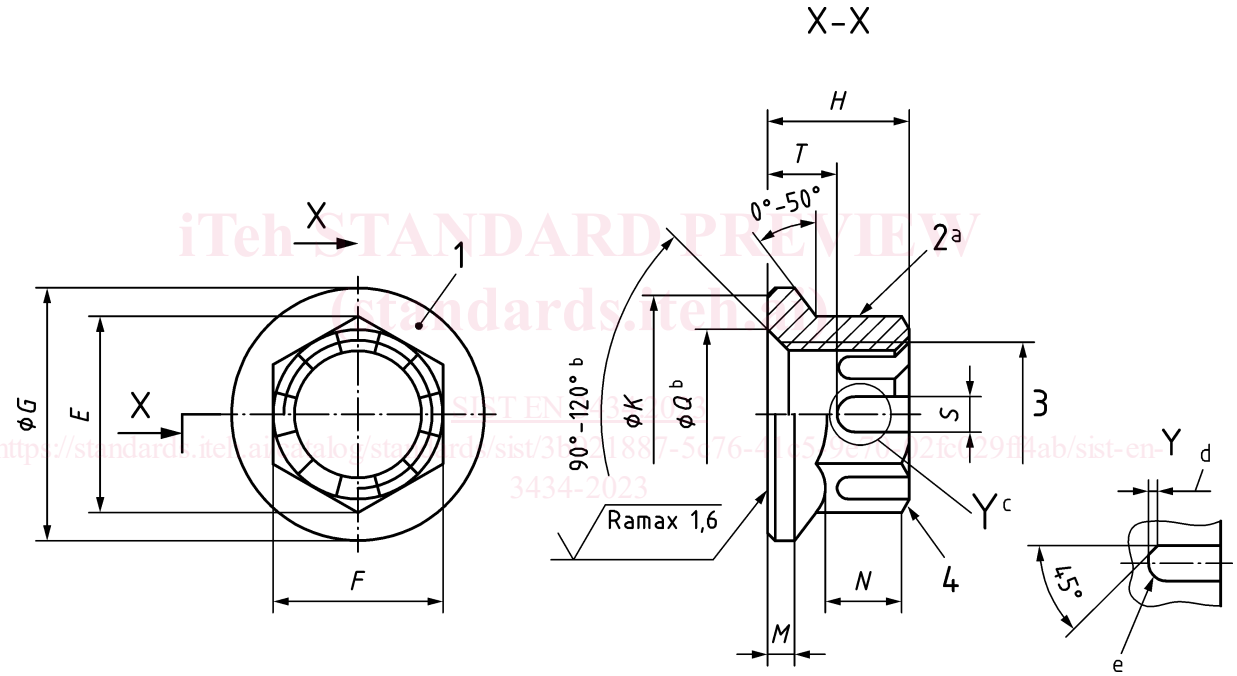
According to Figure 1 and Table 1.

Dimensions and tolerances are expressed in millimetres and apply after cadmium plating but before MoS_2 lubricating.

Details of form not stated are at the manufacturer's option.

Ramax 6,3 (Ramax 1,6) These values in micrometres apply before surface treatment. They do not apply to threads and sheared edges where the surface texture of which will be as achieved by usual manufacturing methods.

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



Key

1 Marking
2 Form out-of-round in this area to achieve the self-locking torque requirement
3 Thread
4 Chamfer, radius or broken edge
a Tooling marks are permitted in this area.
b All forms of entry (chamfer or radius) optional within these limiting dimensions.
c Form (radius or chamfer) at bottom of slot at manufacturer's option
d $\frac{S}{4}$ to $\frac{S}{10}$
e R max. $= \frac{S\text{min.}}{2}$; R min. $= \frac{S\text{min.}}{10}$

Figure 1 — Self-locking hexagonal slotted/castellated nut

Table 1 — Dimensions, masses

Dia-meter code	Thread[a]	*E*[b]	*F*[b]		ø *G*	*H*	ø *K*	*M*	*N*[c]	ø *Q*		*S*	*T*	Mass[d]	Split pin diameter[e]
		min.	nom.	tol.	max.	max.	min.	min.	min.	max.	min.	H14	h14		
050	MJ5 × 0,8-4H6H	6,5	6	h12	9,1	5,0	8,3	0,6	2,0	5,8	5,2	1,5	2,5	0,8	1,0
060	MJ6 × 1-4H5H	7,6	7		10,6	5,4	9,8	0,7	2,3	7,1	6,3	2	2,9	1,1	1,4
070	MJ7 × 1-4H5H	8,7	8		12,1	6,3	11,3	0,8	2,7	8,1	7,3		3,4	1,7	
080	MJ8 × 1-4H5H	10,9	10		13,6	7,2	12,8	0,9	3,2	9,1	8,3		3,9	3,2	
100	MJ10 × 1,25-4H5H	13,2	12	h13	16,8	9,0	15,8	1,1	3,8	11,1	10,3	2,5	4,4	4,8	1,8
120	MJ12 × 1,25-4H5H	15,5	14		19,9	10,8	18,8	1,4	4,5	13,1	12,3	3,5	5,4	10	2,9
140	MJ14 × 1,5-4H5H	17,7	16		23	12,6	21,9	1,7	5,0	15,2	14,4		6,0	12	
160	MJ16 × 1,5-4H5H	21,1	19		26	14,4	24,9	1,9	5,7	17,2	16,4		8,4	21	
180	MJ18 × 1,5-4H5H	24,5	22		29,1	16,2	28,0	2,1	6,5	19,2	18,4	5	9,4	30	3,7
200	MJ20 × 1,5-4H5H	26,8	24		32,3	18,0	31,2	2,3	7,4	21,2	20,4		10,4	38	
220	MJ22 × 1,5-4H5H	30,2	27		35,4	19,8	34,3	2,5	8,4	23,2	22,4		11,4	52	
240	MJ24 × 2-4H5H	33,6	30		38	21,6	36,9	2,7	9,4	25,3	24,5		12,4	64	

[a] In accordance with ISO 5855-2. In the self-locking zone the tolerances apply before forming out-of-round.

[b] These dimensions apply before forming out-of-round, but finished nuts shall fit a standard socket wrench.

[c] Wrench pad engagement.

[d] Approximate values (kg/1 000 pieces), given for information purposes only.

[e] In accordance with EN 2367.

4.2 Tolerances of form and position

According to ISO 8788.

4.3 Materials

According to TR 3791.

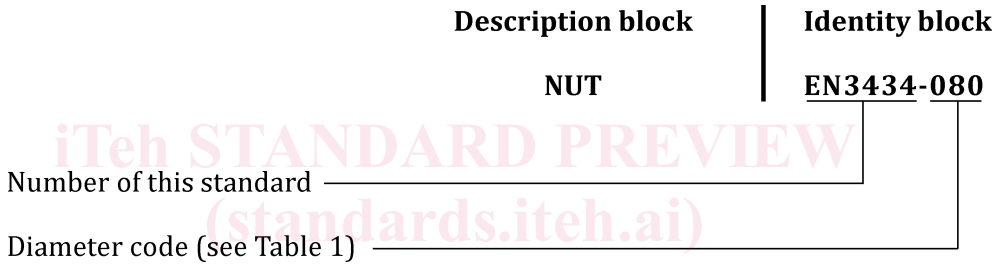
4.4 Surface treatments

According to EN 2133, 5 µm min. on threads and all surfaces which can be contacted by a 20 mm diameter ball. On all other surfaces, a continuous deposit shall be present.

According to EN 2491, thickness not specified.

5 Designation

EXAMPLE



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

6 Marking

According to EN 2424, style N. See Figure 1.

7 Technical specification

According to ISO 5858, except for:

— Self-locking torque limited to five (5) assemblies and disassemblies at ambient temperature.

8 Quality management systems

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).

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*