SLOVENSKI STANDARD
oSIST prEN 2882:2022

01-januar-2022

Aeronavtika - Matice, šestrobe, samozapiralne, z ugreznjeno in robljeno podložko, iz jekla, kadmirane, mazane z MoS2 - Klasifikacija: 1100 MPa (pri temperaturi okolice)/235 °C

Aerospace series - Nuts, hexagonal, self-locking, with counterbore and captive washer, in steel, cadmium plated, MoS2 lubricated - Classification: 1 100 MPa (at ambient temperature) / 235 °C

Luft- und Raumfahrt - Sechskantmuttern, selbstsichernd, mit Aussenkung und Bördelscheibe, aus Stahl, verkadmet, MoS2 geschmiert - Klasse: 1 100 MPa (bei Raumtemperatur) / 235 °C

Série aérospatiale - Écrous hexagonaux, à freinage interne, avec chambrage et rondelle captive, en acier, cadmiés, lubrifiés MoS2 - Classification: 1 100 MPa (à température ambiante)/235 °C

Ta slovenski standard je istoveten z: **prEN 2882:2021**

ICS:

49.030.30	Matice	Nuts

oSIST prEN 2882:2022 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 2882

October 2021

ICS

Will supersede EN 2882:2006

English Version

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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.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

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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Contents

Page

European foreword 3
1 Scope 4
2 Normative references 4
3 Terms and definitions 5
4 Required characteristics 5
4.1 Configuration – Dimensions – Masses 5
4.2 Materials 5
4.3 Surface treatment 5
5 Designation 8
6 Marking 8
7 Technical specification 8
8 Quality management systems 8
Bibliography 9

European foreword

This document (prEN 2882:2021) 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.

This document will supersede EN 2882:2006.

1 Scope

This document specifies the characteristics for hexagon nuts, with counterbore and captive washer, with a self-locking feature achieved by forming the upper portion out-of-round, in steel, cadmium plated, MoS_2 lubricated, classification 1 100 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 2424, *Aerospace series — Marking of aerospace products*

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

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*

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]

1 Corresponds to strength class of the associated bolt, the 100 % load of which it is able to withstand, when tested at ambient temperature, without breaking or cracking.

2 Maximum temperature that the nut is able to withstand, without permanent alteration of 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) (www.asd-stan.org).

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/

4 Required characteristics

4.1 Configuration – Dimensions – Masses

See Figure 1 and Table 1.

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

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

$\sqrt{\text{Ramax } 6{,}3}$ $\left(\sqrt{\text{Ramax } 1{,}6} \right)$

These values, in micrometres, apply before cadmium plating and MoS_2 lubrication. The values do not apply to threads and sheared edges, the surface texture of which will be as achieved by usual manufacturing methods.

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

4.2 Materials

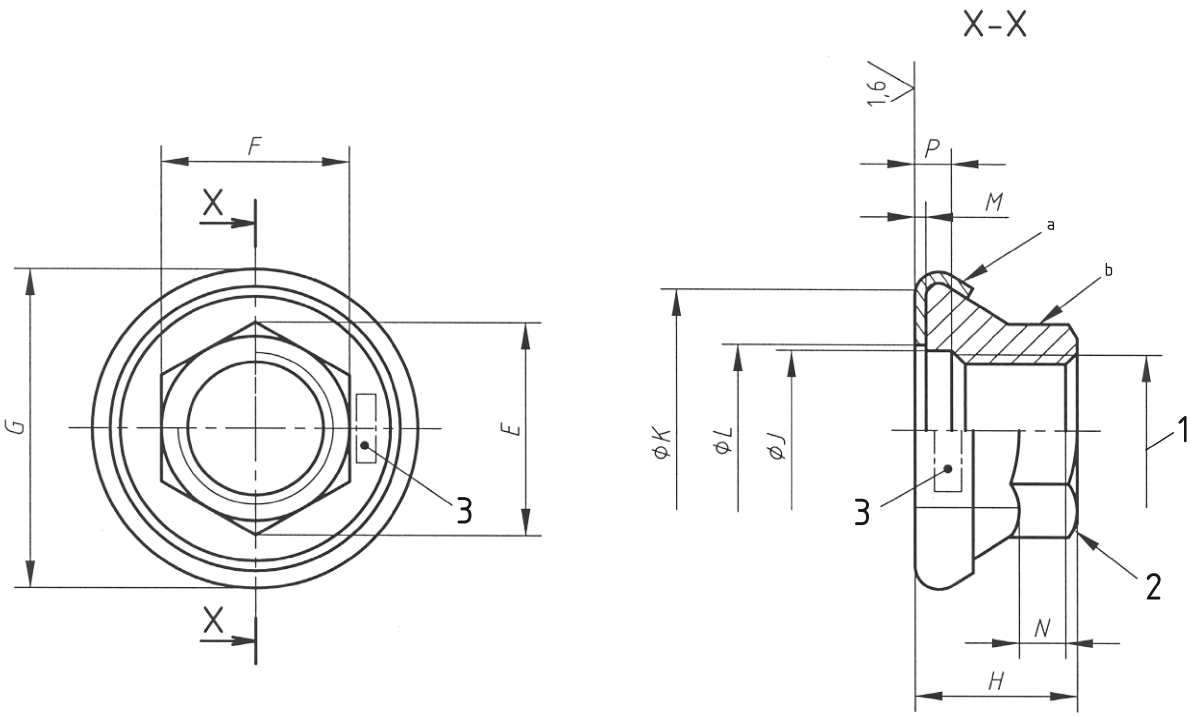
The material shall be according to TR 3791.

4.3 Surface treatment

The surface treatment shall be according to EN 2133.

5 µm minimum on threads and all areas which can be contacted by a 20 mm diameter ball. On all other areas, a continuous cadmium plating shall be present.

Nut only: EN 2491, thickness not specified.



Key

1 thread

2 chamfer, radius or broken edge

3 marking

a Washer, which shall be free to rotate on the nut.

b Form out-of-round in this area to achieve the self-locking torque requirements. Tooling marks acceptable.

Figure 1 — Configuration

Table 1 — Dimensions and Masses

Dimensions in millimetres

Diameter code	Thread[a]	*E*[b]	*F*[b]		*G*	*H*	*J*	*K*[c]	*L*	*M*	*N*[d]	*P*	Mass kg/1 000
		min.	nom.	tol.	max.	max.	min.	min.	max.	min.	min.	min.	max.
030	MJ3 × 0,5 – 4H6H	4,2	4	h12	6,7	4,6	3,4	5,2	3,8	0,4	1,2	1,6	0,4
040	MJ4 × 0,7 – 4H6H	5,3	5		8,4	6,2	4,4	6,4	4,8		1,5	2,2	0,85
050	MJ5 × 0,8 – 4H6H	6,5	6		9,6	7,4	5,5	7,6	5,8	0,6	2	2,4	1,15
060	MJ6 × 1 – 4H5H	7,6	7		11,1	8,1	6,5	9	6,8		2,3	2,7	1,6
070	MJ7 × 1 – 4H5H	8,7	8		13,3	9	7,5	11	8		2,7		2,6
080	MJ8 × 1 – 4H5H	10,9	10		14,6	9,9	8,5	12	9		3,2		3,8
100	MJ10 × 1,25 – 4H5H	13,2	12	h13	17,2	12	10,5	14,7	11		3,8	3	7,5
120	MJ12 × 1,25 – 4H5H	15,5	14		21	13,8	12,5	18,5	13		4,5		11

These dimensions are in accordance with ISO 8538. Tolerances of form and position shall be in conformity with ISO 8788. Dimensions and tolerances apply after cadmium plating but before MoS_2 lubrication.

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

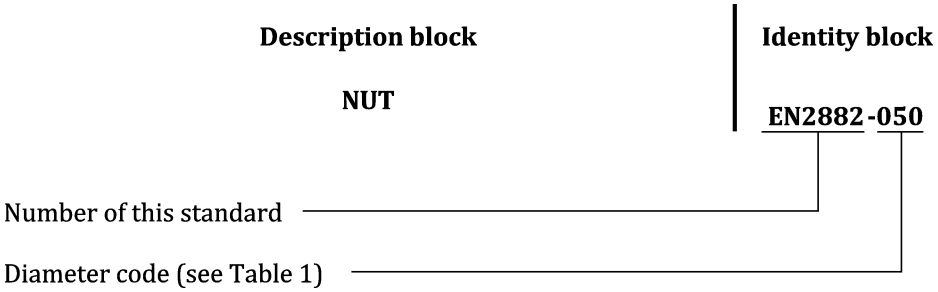
[b] These dimensions apply before forming out-of-round, but finished nuts shall fit a standard socket wrench. Test conditions are quoted in the technical specification.

[c] Bearing surface diameter of the washer.

[d] Wrench pad engagement.

5 Designation

EXAMPLE



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

6 Marking

The marking shall be according to EN 2424, style N. See Figure 1.

7 Technical specification

The technical specification shall be according to ISO 5858 except for:

- approval of manufacturers: EN 9100;
- qualification of nuts: EN 9133.

8 Quality management systems

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).

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.