SLOVENSKI STANDARD
SIST EN 3229:2010

01-februar-2010

Aeronavtika - Matice, ġestrobe, drsne, z normalnim zevom kljuļ a, iz jekla, kadmirane, levi navoj - Klasifikacija: 900 MPa (pri temperaturi okolice)/235 ÁC

Aerospace series - Nuts, hexagonal, plain, reduced height, normal across flats, in steel, cadmium plated, left hand thread - Classification: 900 MPa (at ambient temperature)/235 °C

Luft- und Raumfahrt - Flache Sechskantmuttern, mit normaler Schlüsselweite, aus Stahl, verkadmet, Linksgewinde - Klasse: 900 MPa (bei Raumtemperatur)/235 °C

Série aérospatiale - Écrous hexagonaux ordinaires, hauteur réduite, surplats normaux, en acier, cadmiés, filetage à gauche - Classification: 900 MPa (à température ambiante)/235 °C

Ta slovenski standard je istoveten z: **EN 3229:2009**

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49.030.30 Matice Nuts

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

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Foreword

This document (EN 3229:2009) 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of an identical text or by endorsement, at the latest by June 2010, and conflicting national standards shall be withdrawn at the latest by June 2010.

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1 Scope

This European Standard specifies the characteristics of plain, hexagonal nuts, reduced height, normal across flats, with left hand thread, in steel, cadmium plated.

Classification: 900 MPa [1] / 235 °C. [2]

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

EN 2205, *Aerospace series — Steel FE-PL1502 (25CrMo4) — 900 MPa ≤ R_m ≤ 1 100 MPa — Bars — D_e ≤ 40 mm*

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

EN 2438, *Aerospace series — Steel FE-PL2102 (35NiCr6) — 900 MPa ≤ R_m ≤ 1 100 MPa — Bars — D_e ≤ 40 mm*

EN 2444, *Steel FE-PL711 — 900 MPa ≤ R_m ≤ 1 100 MPa — Bars and wires — D_e ≤ 45 mm* [3]

EN 2448, *Aerospace series — Steel FE-PL1503 (35CrMo4) — 900 MPa ≤ R_m ≤ 1 100 MPa — Bars — D_e ≤ 40 mm*

EN 3513, *Aerospace series — Steel FE-PL711 — Hardened and tempered — 900 ≤ R_m ≤ 1 100 MPa — Bar and wire — D_e ≤ 45 mm* [4]

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

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

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

ISO 9139, *Aerospace — Nuts, plain or slotted (castellated) — Procurement specification*

ISO 9609, *Aerospace — Nuts, hexagonal, plain, reduced height, normal across flats, with MJ threads, classifications: 450 MPa (at ambient temperature) /120 °C, 450 MPa (at ambient temperature) /235 °C, 600 MPa (at ambient temperature) /425 °C, 900 MPa (at ambient temperature) /235 °C, 900 MPa (at ambient temperature) /315 °C, 900 MPa (at ambient temperature) /650 °C, 1 100 MPa (at ambient temperature) / 235 °C, 1 100 MPa (at ambient temperature) /730 °C and 1 250 MPa (at ambient temperature)/600 °C — Dimensions*

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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 to its original characteristics, after ambient temperature has been restored. The maximum temperature is conditioned by the surface treatment.

3) Inactive for new design. See EN 3513.

4) Published as ASD Prestandard at the date of publication of this standard.

TR 3823, *Aerospace series — Materials for plain, slotted and self-locking by plastic ring hexagonal nuts* [5)]

3 Required characteristics

3.1 Configuration — Dimensions — Masses

See Figure 1 and Table 1.

Dimensions and tolerances are in conformity with ISO 9609, expressed in millimetres and apply after surface treatment.

3.2 Materials

EN 2205, EN 2438, EN 2444, EN 2448 or TR 3823.

3.3 Surface treatment

EN 2133, 5 µm minimum on threads and all surfaces which can be contacted by a 20 mm diameter ball. On all other surfaces, a continuous cadmium plating shall be present.

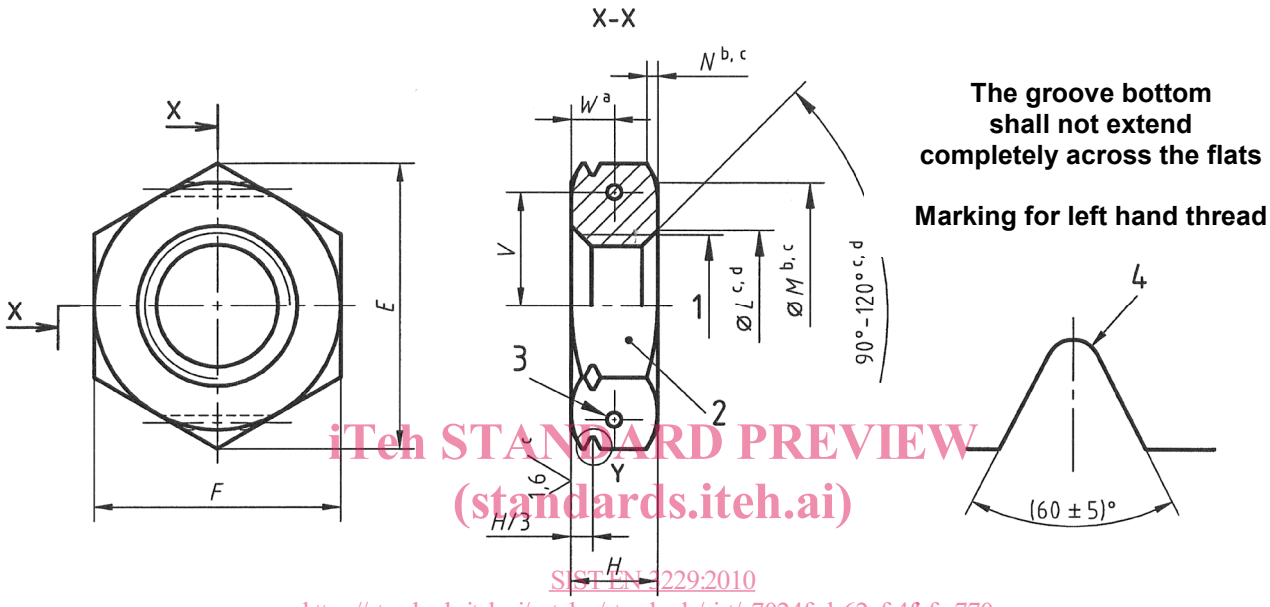
5) Published as ASD Technical Report at the date of publication of this standard.

6,3 [1,6] These values in micrometres, apply before surface treatment. The values do not apply to threads the surface texture of which shall be achieved by usual manufacturing methods.

Break sharp edges 0,1 to 0,4.

Details of form not stated are at the manufacturer's option. Tolerances of form and position shall be in conformity with ISO 8788.

Dimensions in millimetres



Key

1 Thread
2 Marking
3 Two holes ∅ U optional
4 r = 0,2 to 0,5

a From either face.
b Diameter M may be tangential to, but shall not intrude on the flats.
c Applicable to both faces.
d All forms of entry (chamfer or radius) optional within these limiting dimensions.

Figure 1

Table 1

Diameter code	Left hand thread [a]	*E*	*F*		*H*	*L*		*M*	*N*		*U*	*V*	*W*	Mass kg/1 000 pieces approx.
		min.	Nom.	Tol.	h14	Nom.	Tol.	min.	max.	min.	H13	± 0,2	min.	
040	MJ4×0,7-4H6H-LH	7,6	7	h12	2,6	4,2	+0,6 0	6,4			b	b	b	0,65
050	MJ5×0,8-4H6H-LH	8,7	8		3	5,2		7,4						0,9
060	MJ6×1-4H5H-LH	10,9	10		3,5	6,3		9,3	0,5	0,2		3,9	1,4	1,6
070	MJ7×1-4H5H-LH	12	11		4	7,3		10,2			1	4,4	1,6	2,1
080	MJ8×1-4H5H-LH	14,3	13			8,3		12,2				5		3,1
100	MJ10×1,25-4H5H-LH	18,9	17		5	10,3		16				6,9	2,1	6,9
120	MJ12×1,25-4H5H-LH	21,1	19		6	12,3		18				8	2,6	9,7
140	MJ14×1,5-4H5H-LH	24,5	22	h13	7	14,4	+0,8 0	21				9,6	3,1	15
160	MJ16×1,5-4H5H-LH	26,8	24		8	16,4		23	0,6	0,3	1,5	10,7	3,6	19,4
180	MJ18×1,5-4H5H-LH	30,2	27		9	18,4		26				12	4,1	27
200	MJ20×x1,5-4H5H-LH	33,6	30		10	20,4		29				13,4	4,6	37
220	MJ22×1,5-4H5H-LH	35,8	32		11	22,4		30,9				14,4	5	49
240	MJ24×2-4H5H-LH	40,4	36		12	24,5		34,9				16,1	5,5	65

[a] In accordance with ISO 5855-2.

[b] Lockwire holes not provided for these diameters.

4 Designation

EXAMPLE

Description block	Identity block
NUT	EN3229H060

Number of this standard

Hole code (see Table 2)

Diameter code (see Table 1)

NOTE If necessary the originator code I9005 should be placed between the description block and the identity block.

Table 2

Option	Code
Lockwire holes	H
No hole	— (hyphen)