

ČESKÁ TECHNICKÁ NORMA

**Letectví a kosmonautika – Samojistné dvojšestihenné matice
(dvojitě redukované), ze žáruvzdorné niklové slitiny NI-P101HT
(Waspaloy), postříbřené – Třída: 1 210 MPa / 730 °C**



EUROPEAN STANDARD

EN 3637

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English Version

Aerospace series - Nuts, self-locking, bi-hexagonal (double reduced), in heat resisting nickel base alloy - NI-P101HT (Waspaloy), silver plated, Classification: 1210 MPa/730 °C

Série aéronautique - Écrous bihexagonaux, auto-freinant (double réduit), en alliage résistant à chaud à base de nickel - NI-P101HT (Waspaloy), argentés, Classification: 1210 MPa/730 °C

Luft- und Raumfahrt - Zwölfkantmuttern, selbstsichernd (Doppel reduziert), aus hochwarmfester Nickelbasislegierung - NI-P101HT (Waspaloy), versilbert, Klasse: 1210 MPa/730 °C

This European Standard was approved by CEN on 2 February 2008.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents		Page
Foreword.....		3
1	Scope and field of application.....	4
2	References.....	4
3	Required characteristics.....	4
3.1	Configuration – dimensions – tolerances	4
3.2	Material	4
3.3	Surface treatment	4
4	Designation	6
5	Marking	6
6	Technical specification	6

Foreword

This document (EN 3637:2008) 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of an identical text or by endorsement, at the latest by February 2009, and conflicting national standards shall be withdrawn at the latest by February 2009.

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.

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EN 3637:2008 (E)**1 Scope and field of application**

This standard 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 References

- EN 2424 Aerospace series — Marking of aerospace products¹⁾
- EN 2786 Aerospace series — Electrolytic silver plating of fasteners¹⁾
- EN 2959 Aerospace series — Heat resisting alloy Ni-PH1302 (NiCr20Co13Mo4Ti3Al) — Solution treated and cold worked — Bar for forged fasteners — $3 \text{ mm} \leq D \leq 30 \text{ mm}^2$)
- 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 — $3 \leq D \leq 30 \text{ mm}^1$)
- 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 Required characteristics**3.1 Configuration – dimensions – tolerances**

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

3.2 Material

Heat resisting nickel base alloy NI-P101HT to EN 2959 or EN 3220.

3.3 Surface treatment

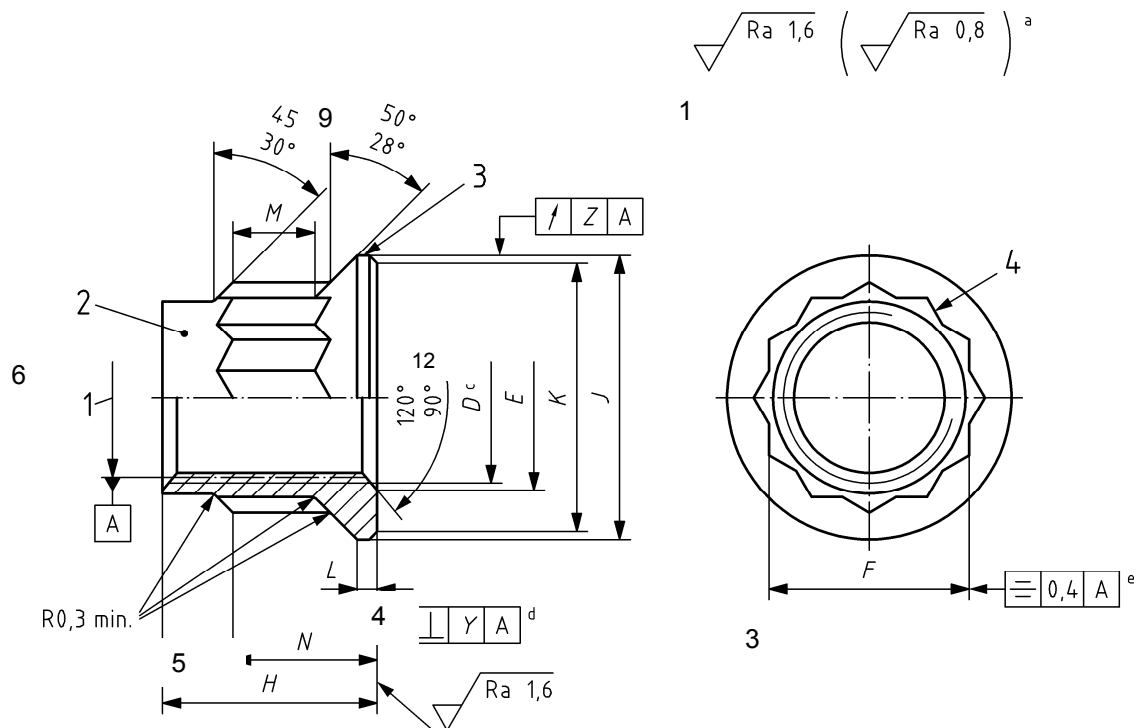
Silver coat to EN 2786, coating thickness 5 µm to 15 µm.

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

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

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

MJ5 nuts shall show complete coating coverage on the threads.



Key

- 1 These values are to be applied before silver coating. Thread's surface will be achieved by normal methods of manufacture
- 2 Bi-hexagonal wrenching configuration ISO 4095 on length M
- 3 6 Places
- 4 Bearing surface may be flat or concave, but shall not be convex
- 5 Remove sharp edges 0,1 to 0,4
- 6 Pitch Diameter
- 7 Self-locking feature at manufacturers option tool marks acceptable
- 8 30° to 45°
- 9 28° to 50°
- 10 Marking on the flange
- 11 90° to 120°³
- 12 $\varnothing D$ ⁴

Figure 1 — Configuration

³ All forms of entry (radius or chamfer) optional within these limiting dimensions.

⁴ Thread in conformity with ISO 5855 part 1 and 2. In self-locking zone the tolerances apply before forming out of round.

Table 1 — Dimensions and masses

Dimensions in millimetres

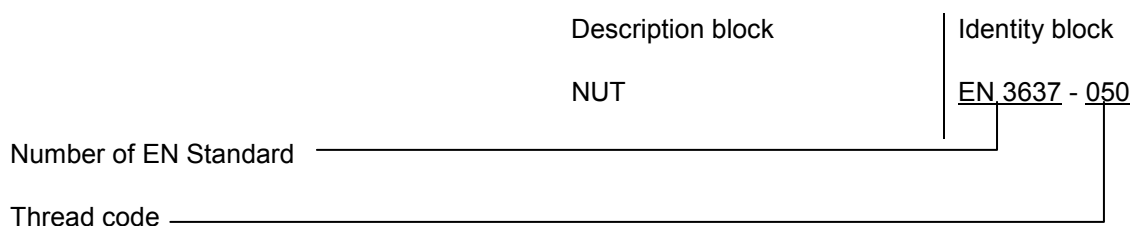
Code	Thread Designation	E		F ^a	H	J	K	L	M ^b	N	y	z	Mass kg/1 000
		min	max		max	max	min	min	max				Part max
050	MJ 5 x 0,8 – 4H6H	5,2	5,8	7	7	9,1	8,3	1,2	2	4,9	0,1	0,2	1,63
060	MJ 6 x 1,0 – 4H5H	6,3	7,1	8	8,1	10,6	9,8	1,2	2,3	5,5	0,1	0,2	2,33
070	MJ 7 x 1,0 – 4H5H	7,3	8,1	9	9,1	12,1	11,3	1,2	2,6	6,1	0,1	0,2	3,19
080	MJ 8 x 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	MJ 10 x 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	MJ 12 x 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	MJ 14 x 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.

4 Designation

Each bi-hexagonal nut shall only be designated as in the following example:



NOTE If necessary, the design code I 9005 may be introduced between the description block and the identity block.

5 Marking

Each bi-hexagonal nut shall be marked in accordance to EN 2424, Class A.

6 Technical specification

The bi-hexagonal nuts shall conform to the requirements of EN 3005.

U p o z o r n ě n í : Změny a doplňky, jakož i zprávy o nově vydaných normách jsou uveřejňovány ve Věstníku Úřadu pro technickou normalizaci, metrologii a státní zkušebnictví.

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