



**SLOVENSKI STANDARD**  
**oSIST prEN 4012:2023**

**01-september-2023**

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**Aeronavtika - Zakovne matice, biheksagonalne, samozaporne, iz toplotnoodporne zlitine na nikljevi osnovi NI-PH2601 (Inconel 718), mazane z MoS2 - Klasifikacija: 1550 MPa (pri temperaturi okolice)/425 °C**

Aerospace series - Nuts, bihexagonal, self-locking, in heat resisting nickel base alloy NI-PH2601 (Inconel 718), MoS2 coated - Classification: 1 550 MPa (at ambient temperature) / 425 °C

Luft- und Raumfahrt - Zwölfkantmutter, selbstsichernd, aus hochwarmfester Nickelbasislegierung NI-PH2601 (Inconel 718), MoS2-beschichtet - Klasse: 1 550 MPa (bei Raumtemperatur) / 425 °C

Série aérospatiale - Écrou bihexagonal, à freinage interne, en alliage résistant à chaud à base de nickel NI-PH2601 (Inconel 718), revêtus MoS2 - Classification : 1 550 MPa (à température ambiante ) / 425 °C

**Ta slovenski standard je istoveten z: prEN 4012**

**ICS:**

49.030.30 Matice Nuts

**oSIST prEN 4012:2023 en,fr,de**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**prEN 4012**

June 2023

ICS 49.030.30

Will supersede EN 4012:2004

English Version

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resisting nickel base alloy NI-PH2601 (Inconel 718), MoS2  
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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.

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

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## European foreword

This document (prEN 4012:2023) has been prepared by the Aerospace and Defence Industries Association of Europe — Standardization (ASD-STAN).

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 4012:2004.

prEN 4012:2023 includes the following significant technical changes with respect to EN 4012:2004:

- a) normative references updated;
- b) Clause 3 „Terms and definitions“ added;
- c) Table 1 extended;
- d) Clause 8 “Quality management system” added;
- e) Bibliography added;
- f) 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.

[oSIST prEN 4012:2023](https://standards.iteh.ai/catalog/standards/sist/85d56bd5-e82c-4f3e-ba65-6c12d6887520/osist-pren-4012-2023)

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**prEN 4012:2023 (E)****1 Scope**

This document specifies the characteristics of self-locking bihexagonal nuts in NI-PH2601, MoS<sub>2</sub> coated, for aerospace applications.

Classification: 1 550 MPa<sup>1</sup>/ 425 °C<sup>2</sup>.

**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 2491, *Aerospace series - Molybdenum disulphide dry lubricants - Coating methods*

EN 2952, *Aerospace series - Heat resisting alloy NI-PH2601 - Solution treated and cold worked - Bar for forged fasteners -  $D \leq 50$  mm -  $1\ 270$  MPa  $\leq R_m \leq 1\ 550$  MPa*

EN 4048, *Aerospace series - Nuts, self-locking, MJ threads, in heat resisting nickel base alloy NI-PH2601 (Inconel 718), MoS<sub>2</sub> coated - Classification: 1 550 MPa (at ambient temperature) / 425 °C - Technical specification*

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

**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 Required characteristics****4.1 Configuration – Dimensions – Tolerances – Masses**

Configuration, dimensions, tolerances and masses shall be according to Figure 1 and Table 1.

Dimensions and tolerances are in millimetres. They apply before surface coating.

**4.2 Material**

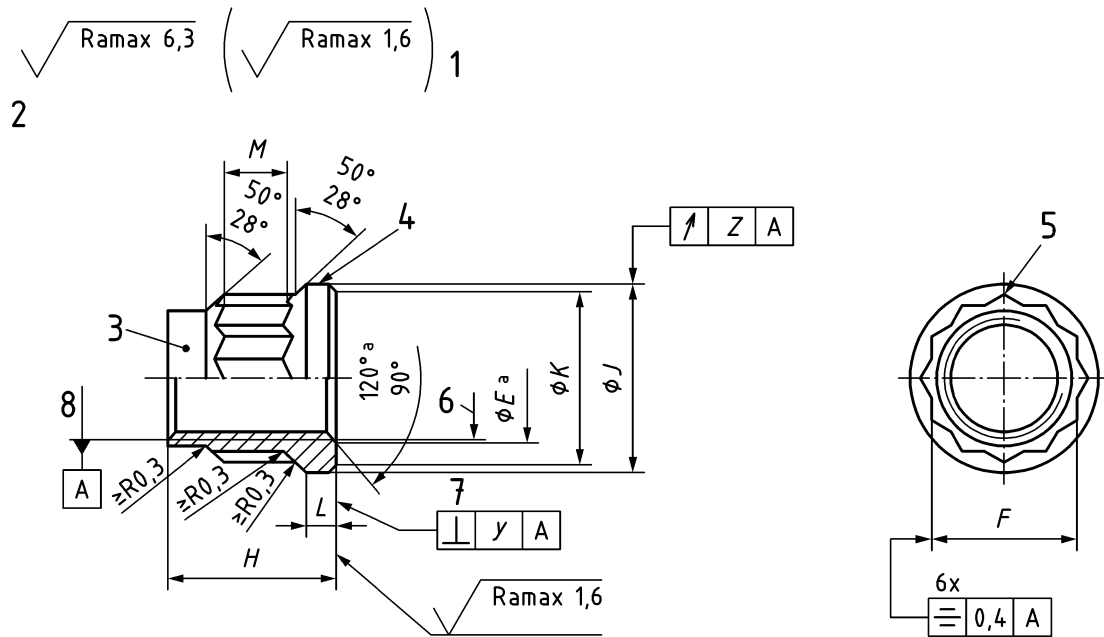
Material shall be according to EN 2952.

**4.3 Surface treatment**

Surface treatment shall be according to EN 2491.

<sup>1</sup> Correspond to the minimum tensile stress which the nut is able to withstand at ambient temperature without breaking or cracking when tested with a bolt of a higher strength class.

<sup>2</sup> Maximum test temperature of the parts.



Details of form not stated are left to the manufacturer's discretion.

**Key**

- 1 values applicable before lubrication. Thread surface will be as achieved by normal methods of manufacture.
- 2 remove sharp edges 0,1 to 0,4.
- 3 form out-of-round in this area to achieve the self-locking requirement (tooling marks permissible).
- 4 marking
- 5 bihexagonal configuration in accordance with ISO 4095 over length *M*
- 6 thread
- 7 not convex
- 8 pitch diameter
- <sup>a</sup> All forms of entry (radius or chamfer) are permissible within these limiting dimensions.

**Figure 1 — configuration**

**Table 1 — dimensions**

Code	Thread <sup>a</sup> Designation	E		F	H	J	K	L	M	Y	Z	Mass kg/1 000 parts ≈
		min.	max.	max.	max.	min.	min.	min.	min.			
050	MJ5 × 0,8-4H6H	5,2	5,8	7	7	9,1	8,3	1,2	2	0,10	0,2	1,68
060	MJ6 × 1-4H5H	6,3	7,1	8	8,1	10,6	9,8		2,3			2,4
070	MJ7 × 1-4H5H	7,3	8,1	9	9,1	12,1	11,3		2,6			3,29
080	MJ8 × 1-4H5H	8,3	9,1	10	10,4	13,6	12,8		2,8			4,47
100	MJ10 × 1,25-4H5H	10,3	11,1	12	13	16,8	15,8	1,4	3,1	0,13	0,3	7,92
120	MJ12 × 1,25-4H5H	12,3	13,1	14	15	19,9	18,8		3,5			15,02
140	MJ14 × 1,5-4H5H	14,4	15,2	17	17,5	23	21,9		4			20,38
160	MJ16 × 1,5-4H5H	16,4	17,2	19	20	26	24,9	1,9	4,7	0,15	0,4	28