SLOVENSKI STANDARD
SIST EN 4117:2005

01-junij-2005

Nadomeġļa:
SIST EN 4117:2004

Aerospace series - Nuts, bihexagonal, self-locking, in heat resisting nickel base alloy NI-PH2601 (Inconel 718), silver plated on thread - Classification: 1 550 MPa (at ambient temperature) / 600 °C

Aerospace series - Nuts, bihexagonal, self-locking, in heat resisting nickel base alloy NI-PH2601 (Inconel 718), silver plated on thread - Classification: 1 550 MPa (at ambient temperature) / 600 °C

Luft- und Raumfahrt - Zwölfkantmuttern, selbstsichernd, aus hochwarmfester Nickelbasislegierung NI-PH2601 (Inconel 718), Gewinde versilbert - Klasse: 1 550 MPa (bei Raumtemperatur) / 600 °C

Série aérospatiale - Écrous bihexagonaux, a freinage interne, en alliage résistant a chaud a base de nickel NI-PH2601 (Inconel 718), argentés sur filetage - Classification : 1 550 MPa (a température ambiante) / 600 °C

Ta slovenski standard je istoveten z: **EN 4117:2004**

ICS:

49.030.30 Matice Nuts

SIST EN 4117:2005 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 4117

November 2004

ICS 49.030.30

Supersedes EN 4117:2003

English version

Aerospace series - Nuts, bihexagonal, self-locking, in heat resisting nickel base alloy NI-PH2601 (Inconel 718), silver plated on thread - Classification: 1 550 MPa (at ambient temperature) / 600° C

Série aérospatiale - Écrous bihexagonaux, à freinage interne, en alliage résistant à chaud à base de nickel NI-PH2601 (Inconel 718), argentés sur filetage - Classification : 1 550 MPa (à température ambiante) / 600° C

Luft- und Raumfahrt - Zwölfkantmuttern, selbstsichernd, aus hochwarmfester Nickelbasislegierung NI-PH2601 (Inconel 718), Gewinde versilbert - Klasse: 1 550 MPa (bei Raumtemperatur) / 600° C

This European Standard was approved by CEN on 11 September 2003.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

Page

Foreword

This document (EN 4117:2004) has been prepared by the European Association of Aerospace Manufacturers - Standardization (AECMA-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 AECMA, 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 May 2005, and conflicting national standards shall be withdrawn at the latest by May 2005.

This document supersedes EN 4117:2003.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This standard specifies the characteristics of self-locking bihexagonal nuts in NI-PH2601, silver plated on thread, for aerospace applications.

Classification: 1 550 MPa [1] / 600 °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.

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

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

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

EN 2786, *Aerospace series – Electrolytic silver plating of fasteners* [3]

EN 2952, *Aerospace series – Heat resisting alloy NI-PH2601 – Solution treated and cold worked – Bar for forged fasteners – D ≤ 50 mm – 1 270 MPa ≤ R_m ≤ 1 550 MPa* [3]

EN 4047, *Aerospace series – Nuts, self-locking, MJ threads, in heat resisting nickel base alloy NI-PH2601 (Inconel 718), silver plated – Classification: 1 550 MPa (at ambient temperature) / 600 °C – Technical specification*

3 Required characteristics

3.1 Configuration – Dimensions – Tolerances – Masses

See Figure 1 and Table 1.

Dimensions and tolerances are in millimetres. They apply after silver plating for thread surface.

3.2 Material

EN 2952

3.3 Surface treatment

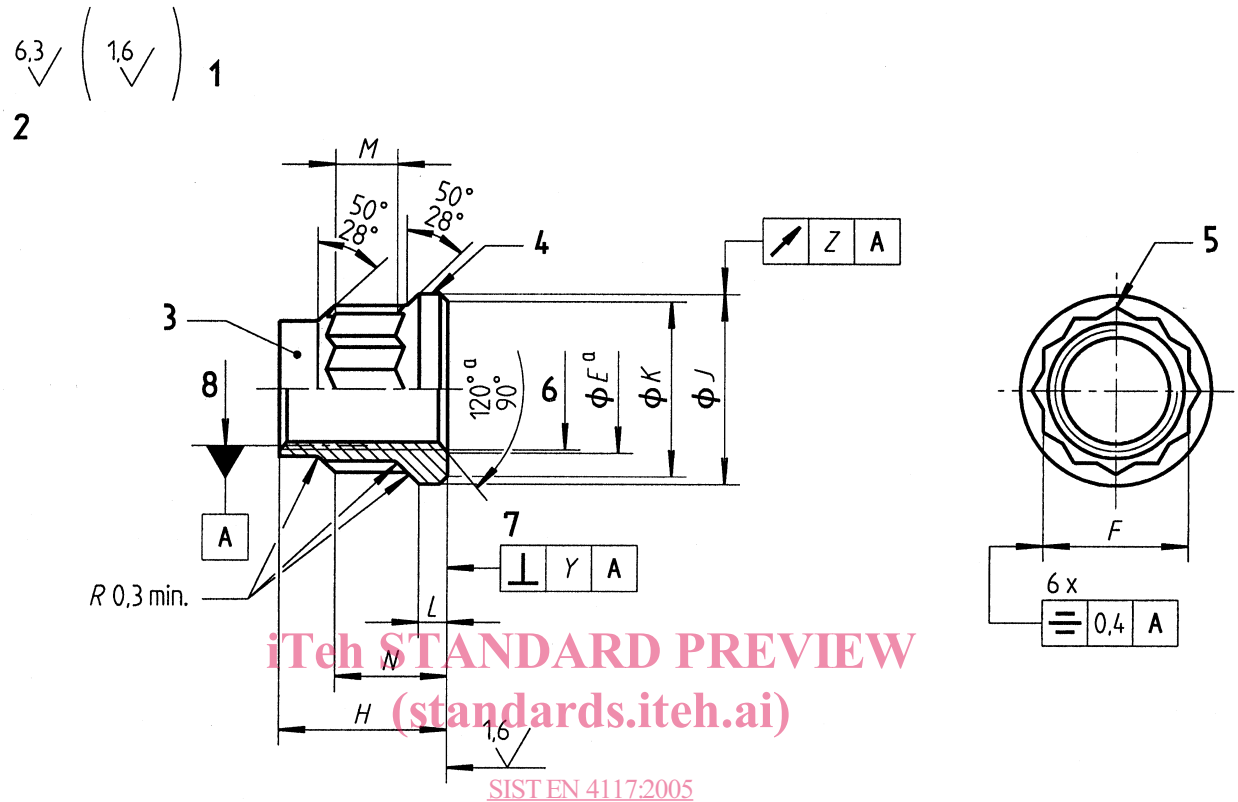
EN 2786 on thread and chamfers

Thickness:

- thread ≥ MJ6: 5 µm min. on thread flanks;
- thread MJ5: shall show complete coverage, without thickness requirement;
- chamfers: shall show complete coverage, without thickness requirement.

---

1) 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.
2) Maximum test temperature of the parts
3) Published as AECMA Prestandard at the date of publication of this standard



Key

1 values applicable before silver plating. 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

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

[a] All forms of entry (radius or chamfer) are permissible within these limiting dimensions.

Figure 1

Table 1

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

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

4 Designation

EXAMPLE

Description block	Identity block
NUT	EN4117-050

Number of this standard

Thread code (see Table 1)

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

5 Marking

EN 2424, style A, as indicated on Figure 1.

6 Technical specification

EN 4047